

Standardization

News Magazine of the American Standards Association, Incorporated



Testing Grounding Plugs for Safety (page 282)

First National Standardization Conference, November 27-28-29 (page 284)

NOVEMBER 1950

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Company Members—More than 1900 companies hold membership either directly or by group arrangement through their respective trade associations.

Marginal Notes

Valve Designs—

W. P. Kliment, who this month picks up the gauntlet on behalf of standards (page 277) is a tall, well built man who hails from Chicago. He is deadly serious when he complains that too many people believe in the deadening effect of standards. As a representative of the Crane Com-



W. P. Kliment

pany and of the Manufacturers Standardization Society of the Valve and Fittings Industry he has had plenty of experience in bringing standards up to date with new developments. He works on committee B16 (Pipe Flanges and Fittings) developing standards for pipe and fittings and is chairman of the Subcommittee on Cast Iron Flanges and Fittings. He is justly proud of the job he tells about in this month's article—a valve design that has been a boon to manufacturers and users of valves because of the lighter weight and compact form. The fact that this new design was developed, used, and is now recognized as standard is a refutation of all claims that standards delay progress. Mr Kliment will maintain to all who will listen or care to argue.

Greater Safety in the Home—

We might point out that this same issue carries another story to prove Mr Kliment's point. The new three-prong grounding plug for electrical appli-

ances—washing machines, dishwashers, ironers, etc.—was designed and developed after the American Standard Attachment Plugs and Receptacles had been in use for nine years (page 282). As in the case of the new type valve, the committee that developed the earlier standard has given the new design recognition by recommending it for approval as American Standard.

Labor's Viewpoint

As Mr Cross (page 287) points out, safety is of personal interest to each individual workman. STANDARDIZATION is pleased to present this direct expression of labor's viewpoint on safety standards. The recent change from representation by the U. S. Department of Labor to direct representation by labor unions on the American Standards Association's Safety Code Correlating Committee (page 295) will give labor an even greater responsibility than heretofore to take part in the development of American Standard safety codes. On the other hand, it should help to bring about a greater understanding of the workman's point of view by representatives of other national organizations who are also taking part in the safety code work.

The American Standards Association welcomes this opportunity to strengthen the American Standard safety program.

Compare your standardization problems — and solutions — with others!

Come to the National Standardization Conference and ASA's 32nd Annual Meeting.

The Waldorf-Astoria, New York
November 27, 28, 29

(See page 284 of this issue.)

Opinions expressed by authors in STANDARDIZATION are not necessarily those of the American Standards Association.

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Standardization is dynamic, not static. It means
not to stand still, but to move forward together.

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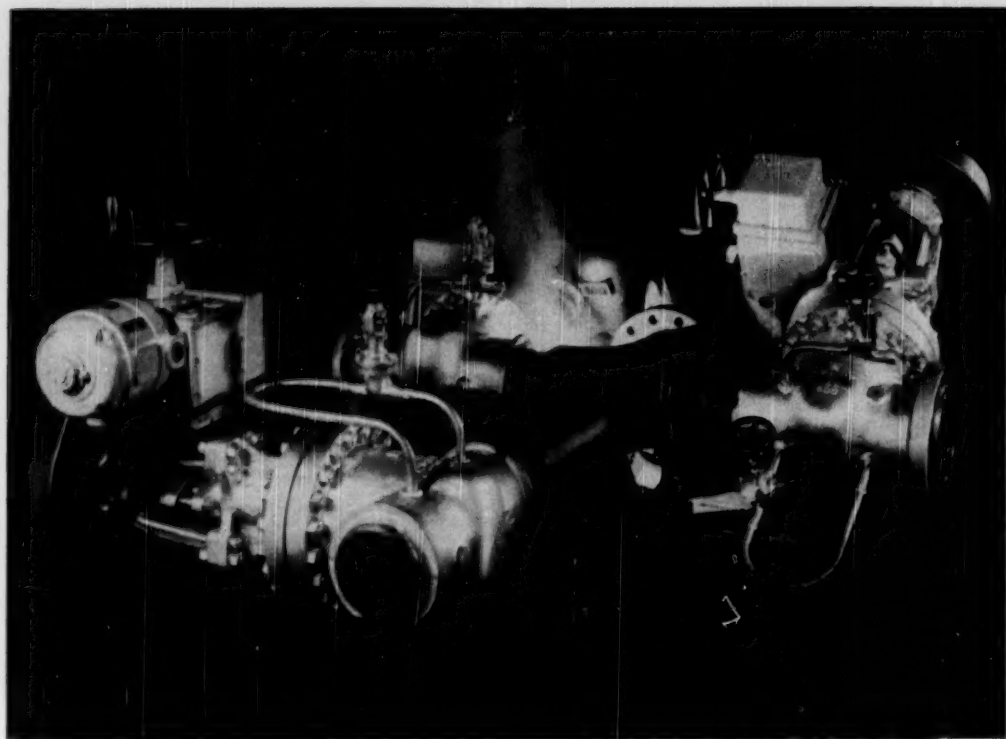
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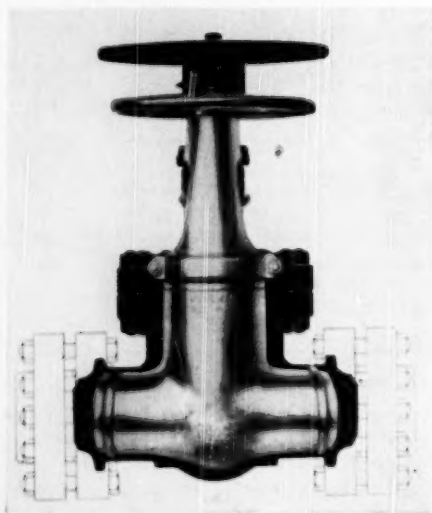
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Crane Research Laboratories Photos

Light-Weight Valve Recognized in Standards



Standards do not retard progress. Pipe valves furnish an example of how new designs can be developed independently of existing standards and become recognized as standard after development. Valves, fittings, pipe and flanges are all covered by American Standards developed by a sectional committee sponsored by the American Society of Mechanical Engineers, Heating, Piping and Air Conditioning Contractors National Association, and the Manufacturers Standardization Society of the Valve and Fittings Industry. Above, component parts of a prefabricated pipe assembly are being welded.

The new-style Pressure-Seal Bonnet Gate Valve, shown here in light outline, compared with the old-style Bolted Bonnet Gate Valve in dark outline, illustrates the compactness and lighter weight of the new design now recognized in proposed new editions of the American Standards on Pipe Flanges and Fittings and Code for Pressure Piping, and in the ASME Boiler Construction Code.

Custom Built Standards

by W. P. Kliment

HOW widely are American Standards used by industry?

And how valuable are they to the companies that use them? These are questions that are asked again and again—by company executives, by committee members, by product users, and even by standards engineers themselves. The answer is difficult to evaluate in terms of number of parts made or number of dollars saved; however, every company man who works with standards has his own idea of what the answer should be.

Recently, the question was raised in a rather controversial way in the Company Member Conference of ASA.

A paper, "Standards for the Steel Industry" by I. E. Madsen, presented before the Conference in Pittsburgh and published in *STANDARDIZATION* (July, page 179) had some challenging statements which deserve clarification and further consideration.

Standard Modified

Mr Madsen in his opening remarks stated:

"Unfortunately, when a proposed standard is developed and modified to the point where it meets the consensus requirements of the American Standards Association, the standard has then been modified to the point where it may not fully meet the needs of a specific industry. Many would-be standards are not put into practice because of this fact. On the other hand, many otherwise desirable standardization projects in the specialty item category are never initiated and carried through to completion because of an immediate recognition that such a standard would never obtain ASA approval."

In view of the basic principle underlying all ASA work that a consensus of those having a substantial interest in the scope and provisions

Engineer of Standards at the Crane Company, and vice chairman of the ASA Company Member Conference.

of a proposed standard must be reached, it is quite difficult to understand why a standard cannot meet the needs of a specific industry if that industry has the proper representation in ASA to which it is entitled. Standards are continually being revised to bring them up-to-date with current practices and scientific findings and new standards are being developed. This is proof that standards do not stymie initiative for improvement but rather meet the need of specific industries and consumers.

There are many organizations such as the American Society of Refrigerating Engineers who sponsor standards which apply to their specific industry. These standards in turn are submitted to ASA for final approval either by the Sectional Committee Method or Existing Standards Method. For example, ASA B9.1-1950, Safety Code for Mechanical Refrigeration, was approved by the American Society of Refrigerating Engineers Council and issued as an American Standard. There is a direct benefit by this procedure in that the standards have greater prestige and are recognized by codifying bodies as reflecting the best practices of a given industry.

Minimum Requirements

The Manufacturers Standardization Society of the Valve and Fittings Industry through its members has sponsored many standards in ASA as well as other organizations which have been adopted by codifying bodies as minimum requirements. A good example of the flexibility of standardization which affects the Society's products is ASA B16e, Steel

Pipe Flanges and Flanged Fittings.

This standard until recently applied only to flanges and flanged fittings, but owing to a major development in valve design, definite changes were made and adopted. In regard to valves, the standard only made reference to face-to-face dimensions of flanged end valves; and the metal thicknesses given in the standard which applied to the fittings also were considered satisfactory for valves.

Weight Decreased

Up to this time, valves had been of the bolted flange type. Within recent years, however, a new design had been developed by several manufacturers which radically deviated from this conventional design. A pressure-seal bonnet joint was developed which eliminated the bolted bonnet, thereby decreasing the weights up to 60 percent over the conventional valve. The bodies of these valves were designed to have smooth-flowing contours with no abrupt changes in metal thickness, thereby minimizing stresses caused by pressure-temperature differences and pipe line strains. This resulted in a reduction in face-to-face dimensions and a reconsideration of metal wall thicknesses based upon appropriate formulas. Years of research and experimentation were required before they were offered to the users.

After wide use and satisfactory operation, requests were made by the users that consideration be given to these types of valves in the various codes and standards. As a result, ASA B16e metal thicknesses were revised. In addition, pressure-temperature ratings were also revised to meet the higher pressures and temperatures and materials now being used. After a thorough study, the ASME Boiler Construction Code and ASA B31.1, Code for Pressure Piping, adopted this standard as part of

these codes. Standards and codes, which are being revised, are taking into account this new valve development.

Mr Madsen also states that "the steel industry's service requirements are very severe." Unquestionably this is an accepted fact; however, there are other industries and services which rely on American Standards which have exacting and severe services as well. Good examples of this are the oil industry and the marine people who depend on Standards to a great extent in their purchases and specifications. If an industry has such standards, which are specifically designed to meet its particular need, there is no reason why the Existing Standards Method cannot be resorted to in order that their specific requirements can be taken care of. Standards of the American Society for Testing Materials are submitted for approval to ASA without going through any of the other recognized channels which develop standards, providing it is shown that the proposed standards are supported by the necessary consensus of those substantially concerned with their scope and provisions.

No doubt the steel industry, like

many other industries and manufacturers, have developed processes and techniques which are identified with their organization, and, consequently, these products or processes are not adaptable for standardization, particularly if they are patentable. However, after wide recognition, many manufacturers have found it advantageous to license others to manufacture under their patents or use their products or processes, which procedure generally leads to standardization. As a rule, a user in his purchase specification does not refer to a particular make of product or trade-name but rather refers to a standard if such is available. Further, it is also desirable to have more than one source of supply in order that shortages and limitations, which may occur, may be overcome. This is possible if proper standards are developed and promulgated.

"Delay Expenses"

The paper states further, "that failure of some items of equipment may cause delay expenses far greater than the amount spent when the industry buys a custom, nonstandard item which will give continuous, uninter-

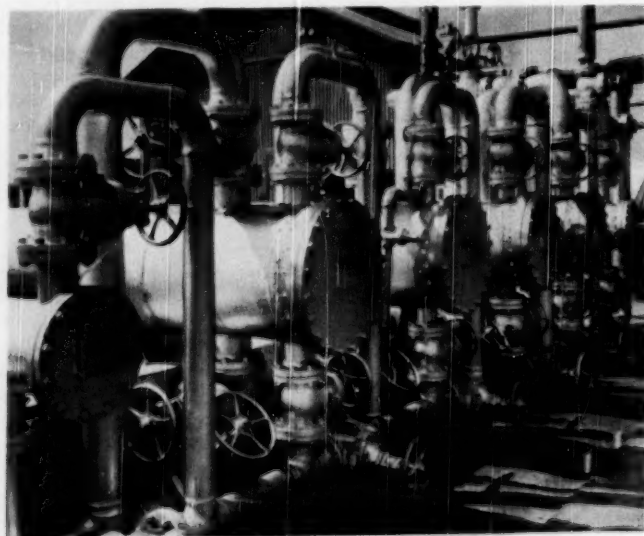
rupted service." It is quite difficult to comprehend how interchangeability is accomplished by use of a non-standard item as well as why non-standard items should give continuous, uninterrupted service. When a standard is developed, it is under the guidance of qualified engineers who have the knowledge to develop an end product of the best design and of greatest benefit to the user, and thereby should be by far superior in quality as well as serviceability than the nonstandard product or device. A chaotic condition would result if many of the standards now recognized were not in actual use, such as screwed threads, fittings, bearings, chemicals, wearing apparel, etc, which are daily taken for granted.

It is also stated that a manufacturer does not wish to set up products on a new standard item unless he is pretty certain that the large proportion of the plants will purchase such an item. Again, it must be realized that it is the producer as well as the user that is represented in the group which promulgates standards, and in the ultimate end it is the user who determines whether or not a standard item is used by his demands on the manufacturer, which for business reasons are generally produced.

Two Purposes

Mr Madsen states that throughout the war a great deal of standardization was accomplished by the steel industry for two purposes: First, to save and reduce the amount of critical materials needed in steelmaking; and, second, to standardize on various types of equipment which were needed by the steel industry so that the suppliers could increase their production by working on a standardized product. This is further proof that standardization is of direct benefit to the steel industry. It should be kept in mind that standardization should not be confused with Purchaser's Specifications. A user has an inherent right to demand requirements in a product which

(Continued on page 294)



Crane Research Laboratories Photo

Valves and fittings on heat exchanger in recycling and repressuring process of an oil refinery are manufactured in accordance with American Standards.

Paris Meeting Shows Progress on International Electrical Standards

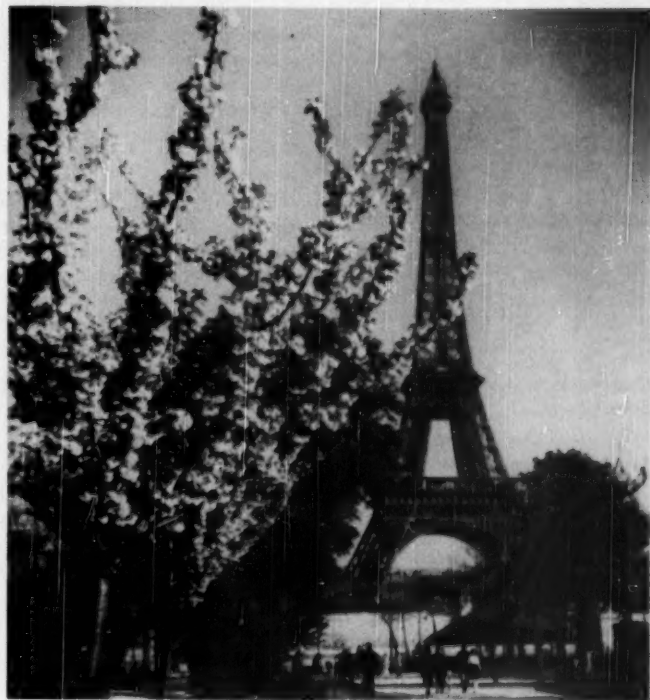
IN July of this year, the International Electrotechnical Commission held its largest and most active meetings since it resumed its work following World War II. Eleven technical committees, a number of subcommittees, the IEC Committee of Action, and the International Special Committee on Radio Interference held meetings in Paris during the two weeks of July 10-21. Approximately 300 representatives from 17 countries attended. The United States National Committee was represented by 15 delegates, with P. H. Chase (Philadelphia Electric Company), vice-president of the USNC, as chairman.

Impressive Record

The electrical industry, young as it is, has an impressive record in international cooperation. The IEC, oldest of all international standards associations, was formed following the Electrical Congress (St. Louis, Mo.) in 1904. Since that time the IEC has operated continuously (except for a few enforced periods of idleness during major wars) and has been responsible for an unusual degree of international agreement on rating electrical machinery, definitions for electrical terms, and similar problems where lack of agreement would cause confusion in international trade. Some 30 international standards have been completed. Many of these are out of date, but the technical committees are now actively at work revising the most important of them.

Looking forward to the IEC's fiftieth anniversary, the United States delegation invited the Commission to return to this country for its Jubilee celebration in 1954. The invitation was accepted.

Agreements reached by the IEC represent an international consensus



French Embassy—Information Division

Lighter moments during the IEC meeting at Paris included luncheon at the Eiffel Tower. Above, the Tower seen through spring blossoms.

and have the force of recommendations for international use. For this reason, the Commission is calling on its members to make a special effort to bring about greater international uniformity in the electrical field. In a resolution adopted at the July meeting, the Commission asked its national committees to use the IEC recommendations whenever new specifications and rules of practice are prepared. It is urging the national committees to pledge their influence to harmonize national standardization rules wherever possible, and to discourage obstacles that might prevent acceptance of equipment that complies with IEC recommendations.

Acting to clarify the terminology

used for one of the fundamental electrical units, the IEC voted to accept the United States recommendation that the ohm referred to in IEC Publication 28 on International Annealed Copper Standards be considered the absolute ohm and not the international ohm.

In addition to the committees already at work, the Commission decided to appoint a subcommittee which is to develop as soon as possible specifications for 50-60 cycles per second steam turbine generators, and a subcommittee to work on dimensional standards for electric motors. A Committee of Experts is also being set up to prepare a program of work for the classification of insulat-

ing materials for electrical use.

New chairmen were appointed for several of the committees (now to be known as "technical" rather than "advisory" committees):

A. Lange (France), Graphical Symbols, TC 3

B. Pochobradsky (United Kingdom), Steam Turbines, TC 5

Professor M. Landolt (Switzerland), Letter Symbols and Signs, TC 25

P. Besson (France), Radio-Communication, TC 12

The technical committees that met in July chalked up a respectable record of accomplishments. In brief, the important actions follow.



Graphical Symbols, TC 3. Secretariat: Switzerland.

The committee decided upon revision of the International Graphical Symbols for Heavy-Current System, IEC Publication 35 (1930) after studying, symbol by symbol, a document comparing the 1930 edition with the latest British, French, and American symbols. A Committee of Experts is to draft a proposed revision. The new edition will be published by sections to expedite the work. Considerable discussion resulted from the fact that some Amer-

ican symbols differ from corresponding European symbols. It was agreed that in case no compromise can be reached, the American symbols will be placed in an appendix as information.

An urgently needed revision of Publication 42, International Graphical Symbols for Weak-Current (Communication) Systems, is awaiting proposals from the International Telecommunications Union group of communication organizations.

Aluminum (TC 7). Secretariat: Canada.

Three international specifications were completed and sent to the national committees for approval. They cover resistivity of aluminum; aluminum for insulated cables; and resistivity of aluminum for bus-bars.

To be studied by the national committees for six months are tentatively agreed upon international specifications for galvanized steel wires for steel-cored and steel-aluminum alloy conductors, and for aluminum alloy wires for conductors for overhead lines. Questions to be considered have to do with joints in aluminum wires, aluminum alloy wire, method of testing steel wire for use in steel-cored aluminum conductors.

Radio Communication (TC 12). Secretariat: Netherlands.

Four subcommittees cover the main part of this committee's work—on



French Embassy-Information Division

Transformer chamber of new Genis-siat Dam, visited by IEC delegates.

Measurements; Safety; Components; and Valves (Radio Tubes). A draft specification, Safety Requirements for Electric Mains-Operated Radio Receiving Apparatus; a document on Color Coding for Fixed Resistors; and a Series of Preferred Values and Their Associated Tolerances for Resistors and Capacitors for Apparatus for Radio-Communication are being referred to the national committees for approval. Preliminary work was done on proposed international recommendations for radio components, tubes, and other materials.

Switchgear, TC 17. Secretariat: Sweden.

After detailed consideration of a draft for a second edition of IEC Publication 56, Specification for A-C Circuit Breakers, the Editing Committee was instructed to prepare a revised draft to be considered at the next meeting. This will probably be in April 1951.

Electrical Accessories, TC 23. Secretariat: Switzerland.

Three proposed standards were referred to the national committees for adoption: Standards for Plugs and Sockets for Domestic Use; Standardization of Current Rating for Fuses; Breaking Capacity of Fuses. The committee is still considering standards for connectors for domestic use, fuses for domestic use, and miniature fuses. Since questions of safety are

The U. S. National Committee of the IEC was represented at the Paris meetings by the following:

P. H. Chase, Philadelphia Electric Company, Vice-President of USNC and Chairman of the Delegation

Mrs Varilee Alexander, U.S. Navy Department, Bureau of Ships, Code 624E

Frederic Attwood, Ohio Brass Company

H. H. Beizer, U.S. Department of the Army, Signal Corps

Professor E. E. Bennett, University of Wisconsin

Dr C. C. Chambers, University of Pennsylvania

H. E. Dinger, U.S. Navy Research Laboratories

Professor R. Rudenberg, Harvard University

E. H. Salter, Electrical Testing Laboratories, Inc.

E. F. Seaman, U.S. Navy Department, Bureau of Ships, Code 350

Dr J. J. Smith, General Electric Company

L. W. Thomas, U.S. Navy Department, Bureau of Ships, Code 931-D

Professor H. M. Turner, Yale University

D. M. Umphrey, Pacific Electric Manufacturing Company

J. W. McNair, Secretary USNC and Secretary of U.S. Delegation, American Standards Association

involved, the International Labor Office is being asked for data on standardization of color and position of push buttons for control of electrical apparatus. This had been the subject of considerable discussion and interest in the United States, and was considered in detail by the IEC committee. Action will await information from ILO.

Electric and Magnetic Magnitudes and Units, TC 24. Secretariat: France.

The name "Newton" was adopted for the unit of force in the Giorgi System. Sixteen national committees had voted in favor.

The ampere was adopted as the fourth principal unit in the Giorgi System (subject to final approval by the national committees).

The so-called "total" rationalization was adopted for the Giorgi System (subject to final approval by the national committees).

An Experts Committee was formed to consider the rationalization methods to be recommended.

Letter Symbols, TC 25. Secretariat: USA.

A revision of IEC Publication 27, International Letter Symbols Used in

Electricity, was completed for adoption by the national committees.

Coordination of Insulation, TC 28. Secretariat: USA.

Work on definitions relating to insulation coordination, done by the Subcommittee on Vocabulary, is being sent to the national committees for consideration.

Subcommittee proposals on lightning arresters will go to the national committees for study.

Fuses, TC 32. Secretariat: France.

A draft specification for fuses for voltages not greater than 1000 volts was considered.

Power Capacitors, TC 33. Secretariat: Netherlands.

The first three sections of a draft specification for shunt capacitors and tests were considered in detail: (General; Safety Prescriptions; Quality, Conditions, and Tests). The Secretariat will prepare a revised draft, including Section 4, Manufacturing Standards, and Section 5, Guide for the Application and Tests. This draft will be sent to the national committees for comment.

Lamps, Lamp Caps and Holders, TC 34. Secretariat: United Kingdom.

Draft International Recommendations on Tungsten Filament Lamps for General Service, completed by Subcommittee A, will be sent to the national committees for approval. A proposed Specification for Tungsten Filament Lamps with a Life of 2500 Hours requires further study. Fluorescent and other types of lamps were also considered.

Proposed International Recommendations regarding Lamp Caps and Holders and Gages Therefor already circulated to the national committees for comment were considered by Subcommittee B. Comments were studied and technical changes made. The recommendations will again be circulated for final review.

Dry Cell Batteries, TC 35. Secretariat: France.

The first meeting of this committee made progress in drafting proposed International Recommendations for Definitions, Sizes, and Quality of Dry Cells of the Manganese Dioxide Depolarizer Type. Work will be done later on methods of testing dry cells.

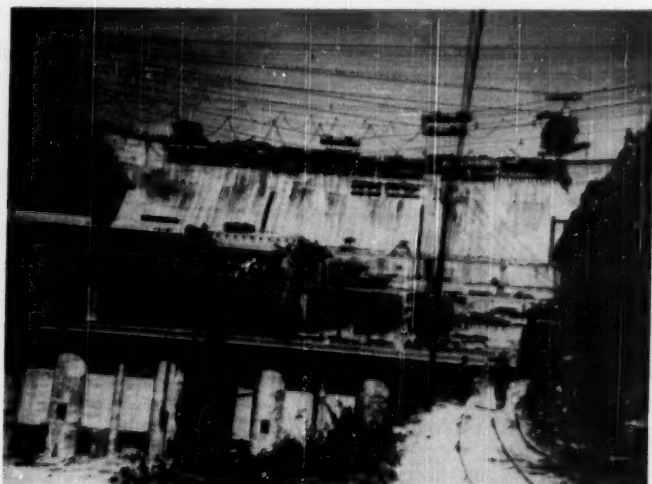
International Special Committee on Radio Interference (CISPR).

This is a joint committee of the IEC and other international organizations that have an active interest in the suppression of radio interference.

A performance specification for an instrument to measure interference is being drawn up, and the committee hopes that sets made in accordance with this specification can be used for comparing measuring instruments in the various countries.

Reception Conditions Differ

A subcommittee studying Limits of Interference has found that the conditions of reception differ in the various countries. This is due to geographical differences and the distribution of population in each country. In spite of these differences, agreement has been reached on a proposed limit. This will be referred to the members for consideration.



French Embassy—Information Division

The Genissiat Dam, near the Swiss border in France, has a capacity of 6 power groups generating 65,000 kw each. Two units are now in operation.

For Greater Safety —

by Arthur L. Abbott

It is quite commonly known that when an electrical appliance is in use there is a possibility that the user may receive a shock, particularly when the person using the appliance is standing in a damp place or is touching any grounded metal, such as steam or water piping, or a plumbing fixture.

While such a shock seldom has any serious result, in order to provide the home owner with a means

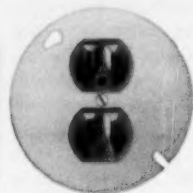
dwelling occupancy. This three-pole type of outlet is to provide a means for grounding the frame of a washing machine or ironer. In places other than residential occupancies, the Code requires that exposed metal parts of portable appliances used in damp or wet locations or by persons standing on the ground or on a metal floor shall be grounded.

Meets Code Requirements

Up to the present time, there has been no recognized standard for the plugs or receptacles to meet these Code requirements. Now, the American Standard for Grounding Caps and Receptacles, C73a-1950, describes devices that will carry out the present requirements of the National Electrical Code, and may be expected to meet any future requirements for grounding exposed non-current-carry-

ing metal parts of portable electric appliances. Grounding caps and receptacles meeting the requirements of the standard have recently been put on the market.

This standard assures interchange-



The Bryant Electric Company

of eliminating this possible hazard, the National Electrical Code calls for at least one receptacle outlet of the three-pole type for the connection of laundry appliances in every

Copies of the American Standard for Grounding Caps and Receptacles, C73a-1950, can be obtained from the American Standards Association at 25 cents.

Arthur L. Abbott, Engineering Department, National Electrical Manufacturers Association, is secretary of ASA Sectional Committee C73 on Attachment Plugs and Receptacles. This committee prepared the new American Standard for Grounding Caps and Receptacles.

The strong interest of electrical inspectors in the grounding of portable appliances was an important influence in development of the standard. Their interest led to appointment of a special committee by the Electrical Committee of the National Fire Protection Association which is responsible for revisions in the National Electrical Code. The special committee recommended that, in general, reliance should be placed on proper insulation rather than on grounding to protect against electric shock. For use where grounding is required by the National Electrical Code, however, it recommended an entirely new type of grounding receptacle and attachment.

The standard for this new type, now approved and published by the American Standards Association, was developed through the Sectional Committee on Attachment Plugs and Receptacles, C73, sponsored by the National Electrical Manufacturers Association under the procedure of the American Standards Association. Through ASA procedure every group concerned has a right to take part in developing a standard. In this case, the National Electrical Manufacturers Association, Electric Tool Institute, Underwriters' Laboratory, International Association of Electrical Inspectors and the American Washer and Ironer Manufacturers Association were active members of the committee. Preliminary to its acceptance by the sectional committee and approval as American Standard, this standard for the new attachment plugs and receptacles was adopted as a NEMA standard and widely circulated.

ability of the plugs and receptacles designed for grounding purposes. In addition, they must meet the safety requirements of the Underwriters' Laboratories 1948 Standard for Attachment Plugs and Receptacles.

The standard calls for a receptacle which will not only receive a cap having three blades (a U-shaped or round grounding blade and two standard, parallel, polarized blades) but also shall permit the insertion of any standard 125-volt polarized or nonpolarized parallel two-blade cap. The contacts must be arranged so as to prevent reversal of polarity if the grounding cap is moved from one side of the duplex receptacle to the other. The exact location of the slots in the receptacle is specified. The type of metal to be used for grounding contacts and the position of the grounding conductor terminal are specified.

Copper Required

Copper or a copper base alloy 0.040 in. minimum thickness is required for U-shaped grounding blades and 0.187 in. diameter for round blades. It must not be possible to insert the grounding blade

New Grounding Plug

in either of the rectangular slots of the receptacle. Dimensions and arrangement of the cap and receptacle are outlined in drawings.

Three-pole receptacles and caps (or plugs) have been on the market for some time but are unsatisfactory for use as grounding plugs since they can be inserted into receptacles connected to a circuit of a higher voltage than that for which the appliances were intended.

Our Front Cover

Underwriters' Laboratories, nationally recognized watchdog of electrical safety, checks plugs and receptacles to prevent fire or shock.

Grounding plugs as well as regular type plugs are subject to the UL safety tests. In this overload test the plug is put into the receptacle and pulled out again 50 times. If the contacts are pitted or burned, or if the wiring terminals become heated to more than 30°C above room temperature, the plug is found to be dangerous and is discarded. (Cover picture from Underwriters' Laboratories.)

The use of the new type of grounding cap, or plug, and receptacle described in American Standard C73a-1950, presupposes the use of a three-conductor cord. Of these three conductors, one is attached to the frame of the appliance. This conductor is termed a "grounding conductor" and must have a green outer covering to identify it, according to the requirements of the National Electrical Code. The green-covered conductor is connected to a round or U-shaped blade in the plug, which fits into a suitable grounding contact in the receptacle. The grounding contact is automatically connected to ground if a metal-enclosed type of wiring is used, such as rigid conduit, electrical metallic tubing or armored cable. If the wiring is knob-and-tube work, a separate grounding conductor must be provided, or, if the wiring is nonmetallic sheathed cable, a three-conductor cable is used, one conductor being used as a grounding conductor. In the interest of safety, it is important that the grounding contact in the receptacle always be effectively grounded either by connection to conduit, tubing, or cable armor or by means of a separate grounding conductor.



The new type grounding plug can be used with modern washing machines and dishwashers.

General Electric Company

Washing machines and ironing machines are at the present time commonly equipped with two-conductor cords terminating in two-pole plugs. Therefore, the new receptacle is provided with current-carrying contacts to receive these plugs.

Although the National Electrical Code does not actually require that the frames of appliances used in a home laundry shall be grounded, the new plug and receptacle provide a convenient means for accomplishing the grounding when this safeguard is desired.

Chilean Director Dies

• • Francisco Mardones, director of the national standards body of Chile, Instituto Nacional de Investigaciones y Normalización, died July 23. Mr Mardones was the first director of the Institute, which was founded in 1944. It was largely through his energy and initiative that the Institute was organized and developed as an active standardizing body. He took an active part in Inter-American technical affairs.

Carlos Hoerning, C.E., has been appointed Director to succeed him.

• • Gray Iron—A summary of gray iron specifications issued by eleven national organizations has been compiled by the Gray Iron Founder's Society, Inc, 210 National City, East Sixth Building, Cleveland. Director Charles O. Burgess of the technical department was in charge of the work. Standards of the following organizations are included in the summary: Association of American Railroads; American Bureau of Shipping; Association of Manufacturers of Chilled Car Wheels; American Petroleum Institute; American Railway Engineering Association; American Society of Mechanical Engineers; American Society for Testing Materials; American Transit Association; United States Government; National Board of Fire Underwriters; Society of Automotive Engineers. A number of American Standards were also included.

A Preview of the

Monday, November 27

Wedgwood Room 10:00 a.m. Thirty-second Annual Meeting

JOINT MEETING of Board of Directors and Standards Council with Company Members of ASA and Guests

OPENING ADDRESS—NATIONAL STANDARDIZATION CONFERENCE. *T. D. Jolly* (Vice-President, Aluminum Company of America) President, American Standards Association

ANNOUNCEMENT OF ELECTION—ASA officers and 1951 members of Board of Directors

STANDARDS COUNCIL—THE WORKSHOP. *W. C. Wagner* (Philadelphia Electric Company) Chairman, Standards Council of ASA

VOLUNTARY STANDARDS—PUBLIC RELATIONS IN ACTION. *Vice Admiral G. F. Hussey, Jr.*, Managing Director, American Standards Association

HOW ASA SERVED INDUSTRY IN 1950. *H. S. Osborne* (Chief Engineer, American Telephone & Telegraph Company) Vice-President, American Standards Association
STANDARDS—SPEARHEADS OF INDUSTRIAL MOBILIZATION. *Roger E. Gros*, President, Bristol Brass Company

Wedgwood Room 2:00 p.m. Standards and Material Defense

Every businessman wants to know how the standardization activities of government agencies will affect his company in the military procurement and industrial mobilization program. This session will discuss how government requirements will affect standards in industry

MODERATOR—Brigadier General Donald Armstrong (USA, retired). President, U. S. Pipe and Foundry Company

NATIONAL SECURITY RESOURCES—BOARD—Howard Coonley, Conservation Consultant

NATIONAL PRODUCTION AUTHORITY—*H. B. McCoy*, Assistant Administrator for Industry Operations

MUNITIONS BOARD—Rear Admiral M. L. Ring, SC, USN, Director of Supply Management

Tuesday, November 28

Astor Gallery 10:00 a.m. Standards: A Procurement Tool

Session sponsored by Committee on Standardization, National Association of Purchasing Agents

Le Perroquet Suite 10:00 a.m. Consumer Clinic

MODERATOR—Herbert O. Bergdahl, Executive Vice President, Associated Merchandising Corporation, New York

Highlights: What the consumer wants; What is being done on consumer standards; What can be done to guide the nation's housewives in more intelligent buying

Earl H. Eacker, President, Boston Consolidated Gas Company

Elmer French, General Sales Manager, Firestone Plastics Company; Chairman, Informative Labeling Committee of the Society of the Plastics Industry

Mrs. Elizabeth Sweeney Herbert, Editor, Household Equipment, McCall's Magazine; Acting Chairman, ASA Consumer Goods Committee

Miss Janette Kelley, Director, Home Service Department, General Mills, Inc.

Dr. Dorothy Seigert Lyle, Consumer Relations, National Institute of Cleaning and Dyeing

Professor Henrietta M. Thompson, Head, Department of Clothing, Textiles and Related Art, School of Home Economics, University of Alabama

W. M. Timmerman, Commercial Engineer, Household Refrigerator Division, General Electric Company

Le Perroquet Suite 2:00 p.m. Consumer Clinic (continued)

Astor Gallery 2:00 p.m. Company Member Conference

PRESIDING OFFICER—*E. W. Gardiner* (Manager, Engineering Laboratory, International Business Machines Corporation, Endicott, N. Y.) Chairman, Company Member Conference

Representatives of Company Members will meet to discuss problems that arise in use of standards, and make suggestions for standardization work to increase the efficiency of their operations

WELCOMING ADDRESS—*T. D. Jolly* (Vice-President, Aluminum Company of America) President, American Standards Association

A REVIEW of standardization procedures of the Radio-Television Manufacturers Association—*Virgil M. Graham* (Sylvania Electric Products, Inc.), Associate Director, Engineering Department, Radio-Television Manufacturers Association

DISCUSSION of companies' standardization problems

Room 4J-K-L 2:00 p.m. Model Laws and Ordinances Committee

Wednesday, November 29

Le Perroquet Suite 10:00 a.m. Company Member Conference

GOVERNMENT PLANNING—*Willis S. MacLeod*, Director, Standards Division, Federal Supply Service, General Services Administration

REPORT OF THE CHAIRMAN—*E. W. Gardiner*, Manager, Engineering Laboratory, International Business Machines Corporation

Room 4J-K-L 10:00 a.m. Committee on Letter Symbols

Astor Gallery 10:00 a.m. The Place of Standardization in Construction

Session jointly sponsored by The American Institute of Architects, The Associated General Contractors of America, and The Producers' Council

PRESIDING OFFICER—*Norman P. Mason* (Treasurer, William P. Proctor Company, North Chelmsford, Mass.) Chairman, Construction and Civic Development Department, Chamber of Commerce of U. S.

AS THE ARCHITECT SEES IT. *Lessing W. Williams*, Architect, New York

AS THE MATERIALS PRODUCER SEES IT. *Harry C. Plummer*, Director of Engineering and Research, Structural Clay Products Institute

AS THE CONTRACTOR SEES IT. *E. K. Abberley*, Project Executive and Director, Turner Construction Company

DISCUSSION—Speakers will answer questions from the floor

Palm Room 11:00 a.m. Conference of Executives of Organization Members of ASA

PRESIDING OFFICER—*W. J. Donald* (Managing Director, National Electrical Manufacturers Association), Chairman, Conference of Executives of Organization Members of ASA

Starlight Roof 12:30 p.m. Annual Meeting Luncheon

THE FTC'S SEARCH FOR A NEW ROLE—*Honorable Lowell B. Mason*, Federal Trade Commission

AWARD OF HOWARD COONLEY MEDAL

Room 4J-K-L 2:00 p.m. Mechanical Standards Committee

National Standardization Conference

November 27, 28, 29-1950

The Waldorf-Astoria, New York

THE First National Standardization Conference, to be held in conjunction with ASA's annual meeting at the Waldorf-Astoria, November 27, 28, and 29, comes at a time when America's standardization program is being challenged as never before. Long-range changes in production methods and economic policies are foreshadowed by the government's preparedness program. In the interim, every company and individual is coming face to face with materials shortages, rising costs and prices, government priorities, and military stock-piling.

What this means to the country's standards is a question that concerns not only government purchasing organizations but every company and every homemaker in the United States. For this reason the First National Standardization Conference includes sessions for companies, consumers, purchasing agents, and the construction industry, and has representation from government.

The keynote address reflects the times—Standards—Spearheads of Industrial Mobilization. It will be given at the Association's 32nd Annual Meeting which opens the Conference. This meeting will survey the way in which the Association is performing its national clearing house function in the public interest.

Following the theme of the keynote speech, a panel on "Standards and National Defense," Monday afternoon, will include spokesmen of the Munitions Board, National Production Authority, and National Security Resources Board.

A New Role

The Federal Trade Commission, which during the past few years has had an important effect on the trend of industrial development and directly or indirectly has affected the

policies of every industry, is itself feeling the trend toward change. At the luncheon meeting Wednesday, November 29, The Honorable Lowell Mason, member of the Commission, will tell about "The FTC's Search for a New Role."

The problems of purchasing agents are being pyramided by priorities and materials shortages. A session to discuss how use of standards can be of help to them is being sponsored by the National Association of Purchasing Agents Tuesday morning, November 28.

The homemaker, pinched between climbing prices, credit controls, and reduced production of consumer items, will be considered in a Consumer Clinic all day Tuesday, November 28. Herbert O. Bergdahl, Executive Vice-President, Associated Merchandising Corporation, will act as moderator. A panel of executives who are in the business of serving the consumer will exchange ideas and experiences to analyze what the consumer wants and how standards can help her in using her household purchasing funds most intelligently. The consumer viewpoint will be represented by home economists closely in touch with the public through school and magazine work.

Company Standards

A session of the Company Member Conference (Tuesday afternoon, November 28 and Wednesday morning, November 29) will give company standards executives an opportunity to discuss their problems. Standardization techniques used in one of the newest and most newsworthy industries—radio and television—will be presented. Virgil M. Graham of Sylvania Electric Products, Inc., Associate Director of the Engineering Department, Radio-Television Manufacturers Association, will speak. The government's plans for stand-

ards under the new General Services Administration will be presented by Willis MacLeod, Director of the Administration's Federal Supply Services. A discussion period for exchange of ideas from the floor will follow the Tuesday afternoon meeting. All present will be invited to participate in the discussion.

New credit controls have hit the building industry hard. For this reason, the place of standardization in construction as a possible aid in conserving materials, cutting time, and reducing expense, is a timely subject. It will be explored by a panel sponsored by The American Institute of Architects, The Associated General Contractors of America, and The Producers' Council. Norman P. Mason, William P. Proctor Company, North Chelmsford, Mass., who is also chairman of the Construction and Civic Development Department, U. S. Chamber of Commerce, will be moderator. Speaking of his plans for the session, Mr. Mason says he will direct attention to the strengthening trend toward adoption of national standards in building codes, as illustrated by acceptance of American Standards for safety, plastering, and inspection and installation of elevators in the new City of Chicago Building Code.

The Conference of Executives of Organization Members of ASA, made up of managing executives of association and society members, will meet Wednesday morning, November 29. W. J. Donald, managing director of NEMA will preside.

The Howard Coonley Medal

One important new feature at this Conference will be the award of the Howard Coonley Medal. It will be presented to an outstanding industrialist who has contributed in an important way to national standardization as an element of free enterprise.

Electrical and Photometric Units Redefined by Congress

IN the past, fundamental units and standards used in electrical measurements have been based on physical standards, the "mercury standard ohm," and the standard cell from which the volt was derived in practice. The historical reason for use of these physical standards in the basic legal definition has been the difficulties involved in absolute measurements.

In the last several years, however, the art of absolute measurements has greatly improved so that the accuracy now attainable through such measurements is reproducible within a few parts in a million.

As a result of these developments, the National Bureau of Standards and like organizations in other countries have come more and more to the opinion that the use of the physical standards as an intermediary has become unnecessary and leads only to confusion.

Units of Intensity

Consequently, upon the recommendations of the NBS and the Secretary of Commerce the Congress has redefined the electrical units in absolute terms. At the same time they have redefined the unit of intensity of light in terms of "black body" temperature. The new law (Public Law 617, 81st Congress) was approved by the President July 21, 1950. In it the units and standards are defined as follows:

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That from and after the date this Act is approved, the legal units of electrical and photometric measurement in the United States of America shall be those defined and established as provided in the following sections.

SEC. 2. The unit of electrical resistance shall be the ohm, which is equal to one thousand million units

of resistance of the centimeter-gram-second system of electromagnetic units.

SEC. 3. The unit of electric current shall be the ampere, which is one-tenth of the unit of current of the centimeter-gram-second system of electromagnetic units.

SEC. 4. The unit of electromotive force and of electric potential shall be the volt, which is the electromotive force that, steadily applied to a conductor whose resistance is one ohm, will produce a current of one ampere.

SEC. 5. The unit of electric quantity shall be the coulomb, which is the quantity of electricity transferred by a current of one ampere in one second.

SEC. 6. The unit of electrical capacitance shall be the farad, which is the capacitance of a capacitor that is charged to a potential of one volt by one coulomb of electricity.

SEC. 7. The unit of electrical inductance shall be the henry, which is the inductance in a circuit such that an electromotive force of one volt is induced in the circuit by variation of an inducing current at the rate of one ampere per second.

SEC. 8. The unit of power shall be the watt, which is equal to ten million units of power in the centimeter-gram-second system, and which is the power required to cause an unvarying current of one ampere to flow between points differing in potential by one volt.

SEC. 9. The units of energy shall be (a) the joule, which is equivalent to the energy supplied by a power of one watt operating for one second, and (b) the kilowatt-hour, which is equivalent to the energy supplied by a power of one thousand watts operating for one hour.

SEC. 10. The unit of intensity of light shall be the candle, which is one-sixtieth of the intensity of one square centimeter of a perfect radia-

tor, known as a "black body," when operated at the temperature of freezing platinum.

SEC. 11. The unit of flux of light shall be the lumen, which is the flux in a unit of solid angle from a source of which the intensity is one candle.

SEC. 12. It shall be the duty of the Secretary of Commerce to establish the values of the primary electric and photometric units in absolute measure, and the legal values for these units shall be those represented by, or derived from, national reference standards maintained by the Department of Commerce.

Repeals 1894 Law

SEC. 13. The Act of July 12, 1894 (Public Law Numbered 105, Fifty-third Congress), entitled "An Act to define and establish the units of electrical measure," is hereby repealed.

Approved July 21, 1950.

The National Bureau of Standards is the agency within the Department of Commerce which actually establishes the values of the primary electrical and photometric units in absolute measure, and which maintains the national reference standards representing the legal values for these units—all under the authority of the Secretary of Commerce as provided in the law.

• • **Standards Are Your Business**—If you want to know why standards are profitable for any business, a lively and entertaining little booklet, just issued by the American Standards Association, will tell you. Primarily a fast-reading story of national standards and ASA itself, the booklet's many examples of savings due to use of standards make it an interesting conversation piece. Copies of the easily handled 4 x 9 1/4 in. pamphlet are available without charge from ASA.

Labor's Attitude Toward Safety Codes

AS long as a member of organized labor sees one of his friends and fellow-workers fall victim to an industrial accident, he is going to be conscious of the need for more industrial safety. The worker is usually receptive to safety regulations, safety codes and safety education.

While I cannot speak for labor as a whole, I would say that safety codes are the ultimate refinement in safety measures. Safety codes must have a place in the safety picture because they are certainly important.

Safety codes are important in the same manner that the framing of a house is important. But the framing

of a house is not the house. Safety codes are based on tangible things; units, measurements, volumes and other concrete items.

The safety code may require that certain types of machines not be run at speeds exceeding certain safe limits, that the floor loading may not exceed certain pounds per square foot, that the machines must have certain guards in place and that they must not be placed closer together than certain feet and inches.

Those regulations would be the framework of safety but the real house of safety would be built when the human element is considered and perfected. The worker must be made



Backus Photo

by James G. Cross

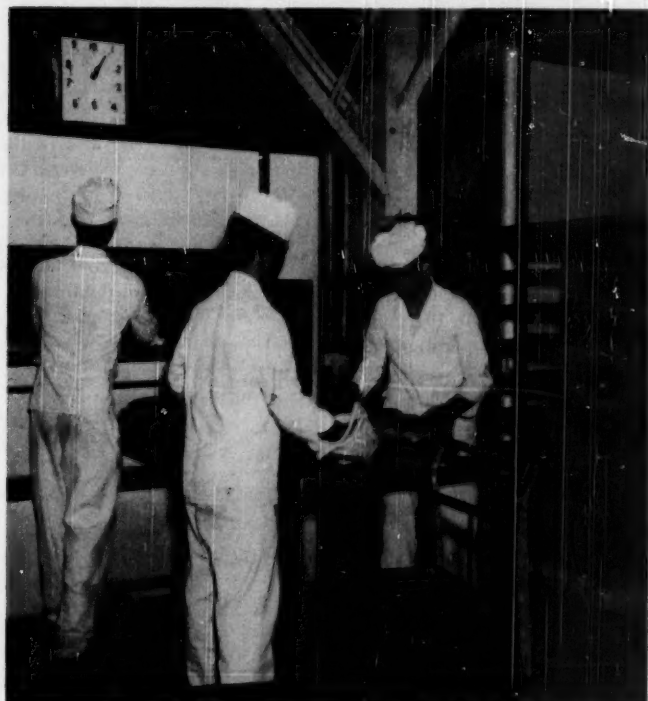
General Secretary-Treasurer, Bakery and Confectionery Workers' International Union of America; Labor Representative on Sectional Committee Z50, Safety Code for Bakery Equipment.

to realize the dangers inherent if he removes those guards, if he runs that machine at excessive speeds, if he crowds in between the machines and, in any other way, violates safe working practices.

Industry has as much to gain as has labor in promoting safety. It costs money to train men and if industry allows a man to be so injured that he cannot continue to work, another man must be trained for his job. Almost every employer recognizes this axiom when he exhibits an interest in learning whether a prospective employee plans on being a permanent employee. The mere threat of bodily injury and pain should not, by ethical standards, be held over the head of a working man, camouflaged as a "safety code." The man wants to work, work safely and bring home just as much money as he possibly can. Sometimes, simply because of economic pressure, a working man will work longer hours on hazardous jobs than are safe if allowed to do so.

The American Federation of Labor, speaking officially, has spoken out loud and strong for safety and safety codes. The safety of workers was exhaustively treated at the most recent convention of the AFofL in St. Paul, Minnesota. In the course of that convention, the Executive

(Continued on page 298)



U. S. Army Photo Loaned by Bakers Review

Many of the injuries in bakeries are caused by burns. Workers are urged to use pads for protection when handling hot pans.

SAFE practices in the design and use of industrial power trucks have been established by a nationwide agreement among users, safety engineers, and manufacturers of these trucks. The recommendations, representing a consensus of all who are substantially concerned, have been published as a Safety Code for Industrial Power Trucks and approved by ASA as American Standard (B 56.1-1950).

The standard applies to industrial trucks of both the driver-ride and driver-lead types, such as platform trucks, tractors, low-lift trucks, high-lift trucks, fork trucks, and special purpose trucks. It does not apply to motor vehicles intended for operation on highways.

The new American Standard B56.1-1950 (32 pages, 5 x 7½ in., price 85 cents) is now available.

The development of these standard practices for safety was proposed in 1946. The purpose was to promote safety of personnel and equipment by establishing authoritative and uniform fundamentals in certain elements of design, and by setting up rules for the operation and maintenance of industrial trucks, based on years of experience.

Less Production Cost

Through establishing uniformity of operating controls and safety devices for all industrial trucks, manu-

facturers of trucks also contemplated avoiding excessive production costs and selling prices. Thus, adoption of the code in full or in part by states and municipalities instead of their own independently devised safety codes with their varying requirements, would avoid the "custom building" of industrial trucks. This would result in lower-cost production methods by manufacturers and in savings for purchasers.

The new standard makes no sense obligatory upon anyone except as it may be adopted by regulatory bodies. It is intended to provide a uniform basic code and a guide for state, municipal, and other governmental authorities in formulating safety rules and regulations. The significance of the new American Standard is that every manufacturer is faced with the opportunity to develop uniformity of design and operation on which there is a nationwide agreement, it represents a common-sense thinking.

The new standard was developed under the technical leadership of The American Society of Mechanical Engineers. Membership on the formulating committee included representatives of more than 20 other national organizations, such as Electric Industrial Truck Association, Materials Handling Institute, Nation-

al Safety Council, Congress of Industrial Organizations, U. S. Department of Commerce, National Electrical Manufacturers Association, American Society of Safety Engineers, International Association of Governmental Labor Officials, and fire and casualty insurance organizations.

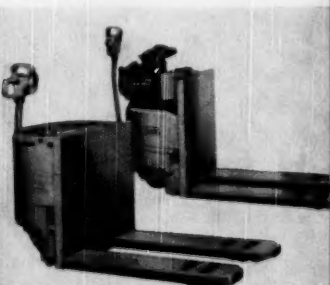
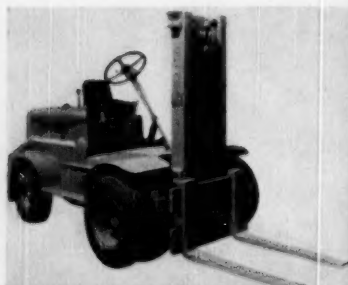
For Truck Operators

The standard is also intended for direct use by concerns manufacturing or utilizing industrial power truck equipment. For this purpose it summarizes requirements for safety in design and recommends practices and rules for industrial truck operation. The latter are based upon those that have been formulated and used effectively over a period of years in many manufacturing plants and warehouses where fleets of industrial trucks are operated.

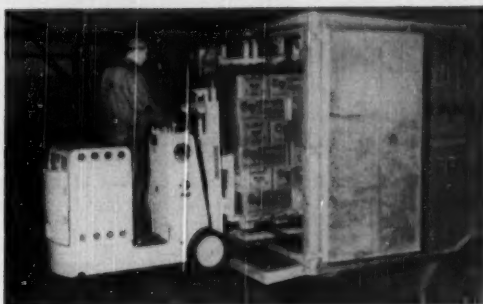
In this connection the standard points out that "the use of industrial power trucks is subject to certain hazards that cannot be overcome by purely mechanical means but only by the exercise of intelligence, care, and common sense. It is, therefore, essential to have competent and careful operators, physically and mentally fit, and thoroughly trained."

The standard consists of an introduction and three parts. The introduction defines and illustrates types

(Continued on page 300)



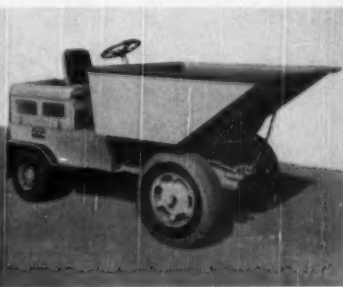
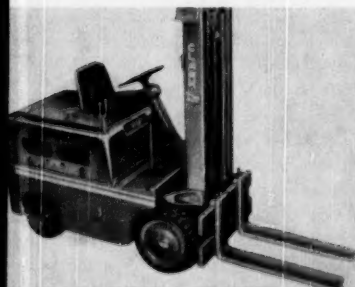
Power Trucks



POWERFULLY SAFE!

The industrial power truck, versatile jack-of-all-trades in industry, operates behind the scenes and is seldom seen by the public. Not a land highway vehicle, it is used mainly within the factory confines and on docksides. There—with the stamina of a Western cow pony, the pushing, pulling and lifting strength of a team of elephants, and the durability of a donkey—it is instrumental in helping to save countless production and transportation hours. The new American Standard Safety Code for Industrial Power Trucks now attempts, for the first time, to set forth specifications for design and for the operation and maintenance that will additionally make

these trucks as safe and sure as a mountain goat on a familiar path. Provisions for safety in design cover everything from warning devices to recommended arrangement of exhaust systems. General and specific rules for operation and maintenance insure that the use of the trucks will be as intelligent as the design. The pictures on these pages, showing various types of industrial trucks and their uses, are published here through the courtesy of: American Can Company, Automatic Transportation Company, Bond Industrial Equipment Company, Merchants Refrigerating Company, and Yale and Towne Manufacturing Company.



An Experiment in Standards

Cafeteria Saves with

by E. R. Kingsbury

L. S. Ayres & Company,
Indianapolis, Indiana

EIGHTEEN months of operation have now proved that careful study of food and dish handling was worthwhile. In a sense, nothing new was invented; this installation simply went further than usual in two respects: (1) reduction of many sizes of pans, racks, and trays to two basic standards, and (2) eliminating hundreds of square feet of shelving as a result of this standardization—thus saving initial cost plus daily cleaning labor.

The tangible results are greatly reduced handling of many foods and dishes, reduction in number of pans and racks to be washed, lower breakage due to less handling, and a quieter kitchen and cafeteria service line. (The rattle-rattle produced when a quantity of dishes or cups is transferred from a truck

to a shelf is well known. Some employees like to rattle 'em loud to let the boss know they are working at high speed!)

A commonly used method illustrates the principle. Consider the modern method of placing soiled coffee cups directly in wire racks, running through the dishwashing machine, transporting and storing the cups in those same racks until used, versus old methods of re-handling each cup, stacking cups on a shelf, etc. The new system has all of the advantages named in the preceding paragraph.

It was found that this principle could not be applied to other items very easily. Catalogs or dealers' show rooms just didn't have mod-

ular sizes in many cases, so it was decided to dismiss the idea of buying ready-made racks or refrigerators, and design to the required sizes.

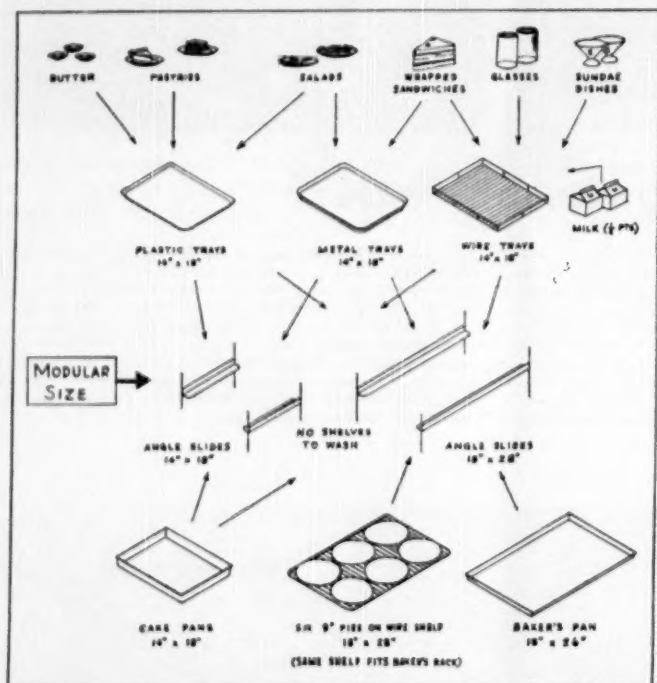
Number One basic size chosen was 14 by 18 inches—the commonly used size of plastic or aluminum cafeteria tray. This is convenient to handle, empty or loaded, and the largest size which can be run through most rack-type dishwashing machines.

Standard Refrigerators

This size led to the ordering of several reach-in refrigerators 28 inches inside depth and with doors about 19 inches wide, equipped with stainless steel angle slides. Each pair of angles holds two 14 by 18 trays. Individual salads are prepared just behind the salad service counter on 6-inch plates, six salads are placed on a tray, complete trays are put in the rear doors of the refrigerator—with no shelves, no re-handling of the plates. As salads are used from the front of the refrigerator, the empty trays are taken out and passed back to the kitchen.

In the salad refrigerator alone this saves the cost and the daily cleaning of 115 square feet of shelves. Of course, it is possible to handle salads on trays even in a refrigerator with shelves, if the size is right. But the shelves increase the initial cost and they must be washed by hand after each serving period.

To extend the use of the standard size, eight dozen special chromium-plated wire trays 14 by 18 with rims one inch high were ordered. On angle slides built into the counter fixtures,



Institutions Magazine

The above diagram indicates the flexibility which resulted at L. S. Ayres & Co. when a modular size was chosen and carried through in trays, pans, racks, refrigerators, etc. Re-handling of individual items has been eliminated, reducing labor, contamination, breakage and noise.

Modular Pans

these trays are used for sundae dishes, juice glasses, tea glasses, etc. In another refrigerator, they are loaded each morning with cartons of milk; as milk is needed on the counter a complete tray-load is transferred—the cold pan having been made 19 by 29 inches to take two trays. At the end of the day, the refrigerator is empty, leaving only the angle slides to be quickly cleaned.

Water glasses are washed and dispensed from these same wire trays. An empty tray is loaded with soiled glasses in the dish room, the entire tray placed inside a 20 by 20 inch dish rack to go through the machine. After washing, the loaded tray is removed from the rack, stacked with others, and transferred to angle slides in the dining room water station. The slides in this fixture are so spaced vertically that a guest can easily remove a glass from any tray without difficulty—due to the low rims on the trays.

The advantage of the wire trays—as compared to a plastic or metal tray—is that glasses need no rehandling, and vapor is not trapped inside warm glasses. The wire trays keep a bright appearance; do not



Restaurant Management

wear or become rusty because they ride through the dishwashing machine inside the larger rack. (Stacking type glass racks are very good, but attendants must be nearby to remove the top racks as soon as they become empty.)

Iced tea glasses and juice glasses are also washed and stored in these wire trays. Wherever the angle slides were made "double size" they can hold two 14 by 18 inch trays or one baker's bun pan, 18 by 26 inches. To carry this possibility a little further, bakers' racks were designed

with angle slides 18 inches long and 28½ inches apart, and equipped with stainless steel wire shelves 18 by 28 inches. This shelf size will hold a bun pan and will also hold six 9-inch pies as they come from the oven. Special cake pans, 14 by 18 inches, were also adopted so that two of these will nicely fill one shelf on the rack.

There was another advantage in making the bakers' racks small, 18 by 28 inches. It means that the racks are light and very easy to move around. Women bake shop employees readily move these racks wherever they need them.

When a rack load of pies is ready to transfer to the pastry section, an entire shelf load of 6 pies can be slid out of the rack into the rear of the pass-through cabinet at one time instead of handling each pie, because the pastry cabinet has slide rails 28 inches long, 18½ inches apart. (Perhaps this isn't always done when "filling in" as pies are used, but the possibility is there.)

Cakes can be transferred directly onto the slides, without any shelf, due to the standard size. At the pastry section there is a "passback" compartment for returning the empty pie and cake pans to the kitchen—

(Continued on page 298)

A report of an experiment that cut down a cafeteria's expense by cutting down on the handling of pans and dishes caught our attention recently because of the standardization story it told. The report was published in Institutions Magazine, July, and told how the Employees' Cafeteria of L. S. Ayres & Company, Indianapolis, tried out "modular" size pans and other equipment with greatly increased efficiency. The system was used in addition to step-saving layouts and a "production line" system of running pans through warmers, cabinets, and refrigerators commonly found in new institution kitchens. The efficient layout and the method of passing pans through the "production line" are observed readily by visitors, but the modular handling technique for pans, trays, and fixtures is not so noticeable, the Cafeteria reported. "Like a fully tailored air conditioning system, it makes itself inconspicuous by its smooth, quiet operation," it comments. Following is an abbreviated version of this unusual story of application of a standardization technique.

Broad Standardization Endorsed By Five National Associations

TO understand national standardization and appreciate its benefits usually requires a course of study rather than a few minutes of reading. This is perhaps the reason that although standardization has been a dominant characteristic of America's rapid industrial development, too few yet realize that industry has barely scratched the surface of its possibilities.

Factors Evaluated

Everyone agrees that standardization has value but no one knows exactly how much. However, it is possible to evaluate some factors in terms of manufacturing costs and to show that nation-wide standardization leads to this and other advantages. The ways that five national associations are educating their members on their standardization activities with American Standards Association are given below. These associations are:

National Association of Purchasing Agents (NAPA)

National Electrical Manufacturers Association (NEMA)

American Gas Association (AGA)

National Association of Manufacturers (NAM)

Heating, Piping and Air Conditioning Contractors National Association (HPACCNA)

The NAM has adopted a "Resolution on Voluntary Standards" in which it "commends to the attention of management the desirability of promoting the development and use of sound voluntary standards, and the strengthening of such efforts, to that end, on the part of trade associations, technical societies, and specialized standards organizations."

Wallace F. Bennett, president of NAM in 1949, and prominent Salt Lake City industrialist, concluded in a supporting statement last year that "Business will be overlooking a highly valuable, fundamental technique of management if it does not make the widest use of voluntary standards to effectuate production economies, to speed the flow of parts and materials, to increase total production and plant productivity, and finally to assure the American people that its competitive enterprise system is fulfilling its obligation to make possible a better life for Americans under a sound and strong national economy based on in-

dividual freedom."

He warned that one phase of the process must be made crystal-clear to the public—that the standards developed and cleared through ASA and cooperating groups (1) do not lessen competition, (2) are in the public interest, and (3) in no respect are a contravention of Federal or state antitrust laws.

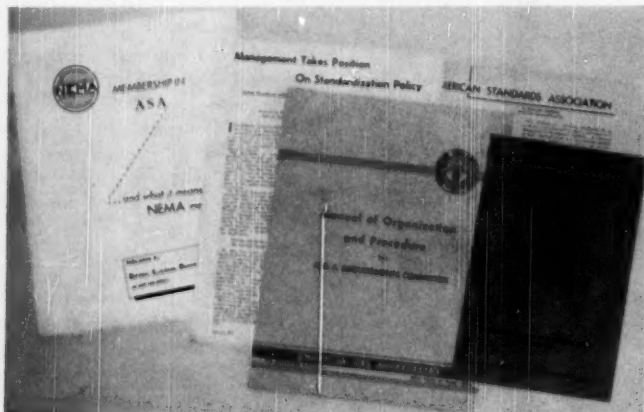
Standards can best be advanced by voluntary agreements, democratically arrived at by the action of individuals and groups which have specialized knowledge and day-to-day actual experience in dealing with the problems, he pointed out.

More Efficient Buying

The meaning of standardization in the economics of purchasing was recently presented by NAPA in the form of a 30-page booklet, "STANDARDS: A Procurement Tool," the introduction of which is reproduced on the opposite page.

The contribution which standards can make toward more efficient buying has been given close attention by purchasing agents for many years. NAPA, after coming to know and appreciate the contribution to the development of standards by the American Standards Association, became a member-body this year and has created a new Committee on Standardization which is actively participating in the development of American Standards.

The booklet gives the fundamentals of standardization, including its scope, the organization of ASA and its relation to national associations, and points out that all industrialized countries have recognized that standards must be observed on a nationwide scale to be fully effective. With 350 or more standardizing groups in the United States it was necessary to do something about standardizing standards, the booklet explains, adding that ASA was the means developed for co-ordinating standardiza-



Five national industrial associations put on paper the reasons they participate in ASA activities and how they do it.

tion activities, to simplify development of standards and to eliminate duplication and overlapping of this work.

Continuous Activity

The American Gas Association has published several editions of a "Manual of Organization and Procedure" for guiding AGA committees. In it numerous references and one section are devoted to ASA, through which all standardization by the association is channeled. Recognition of the importance and value of American Standards by AGA goes back to 1930 when arrangements were first made so that the AGA Approval Requirements Committee included the required balance between utility, manufacturer, and general interest and consumer groups. The chairman of this committee ten years ago stated that "A most essential function of any agency dedicated to promoting consumers' standards is its continuous activity not only in maintaining up-to-date standards but also in extending them to cover new developments and improvements in that particular field."

The American gas industry anticipated a popular demand for tested and certified commodities and it also recognized the need for an authoritative national guide to serve as a consumer's aid in purchasing gas equipment which would be durably constructed and operate safely and efficiently.

One of the important advantages gained through ASA approval of standards for gas burning equipment has been their more general acceptance as the basis for state and municipal safety codes, which had been so widely variable among the hundreds of cities and states as to prevent the general use of mass production methods of manufacture.

What membership in ASA means to NEMA members is covered in a new 16-page booklet published last year by NEMA. The association recognizes that "Since national standards are so necessary in all phases of the business involved in the manufacture and sale of electrical equipment, so

(Continued on page 298)

Standards: A PROCUREMENT TOOL

(The Meaning of Standardization in the Economics of Purchasing)

Suppose you, the Purchasing Agent, received a purchase requisition from the Maintenance Department Engineer which specified:

"12 franisans of nails."—Period!

You'd probably scratch your head and say:

"Franisans? What in h—l are 'franisans'?"

"That guy must be nuts!"

"Why doesn't he tell us what he wants—and how much—in terms we can understand?"

Now, your blood pressure wouldn't go up if that requisition had specified:

"One (1) keg—ten penny (10 d) common wire nails."

Why?

Because you'd know exactly what the engineer wanted—and how much. And so would your supplier.

And the reason you'd know is because the specifications are clear-cut, simple, *standards*.

Use of those *standards* simplifies your job, saves you time and prevents irritations.

But those *standards* didn't just grow! They had to be developed, agreed upon and accepted. (And that can be complicated.)

Yet, just look what those simple *standard* terms in that requisition mean.

One (1) keg of nails = A *standard* keg containing 100 pounds net weight of nails.

One pound = A *standard* unit of weight.

Common wire nail = *Standard* trade name for a specific type of nail.

Standard ten penny common wire nail = 3 inches long, No. 9 gauge wire body, with head diameter of $\frac{5}{16}$ inch.

One inch = A *standard* unit of measure.

Standard No. 9 wire gauge size = 0.148 inches diameter wire.

That looks complicated.

But see how the mere use of a few *standards* simplified that requisition, which now reads:

"One (1) keg—ten penny (10 d) common wire nails."

* * *

Without *standards*, no Purchasing Agent could function efficiently.

Without *standards*, our industrial life, as we know it, would be impossible.

Each simple purchase would require sketches, blueprints and pages of specifications.

Endless controversy over shipments of goods would be the order of the day.

We'd all end up in the booby hatch!

Standardization Seminar To Assist Companies In Organizing Their Work

PROGRESSIVE industrial executives increasingly recognize the value of standardization in coordinating such functions as design, production, inspection, purchasing, and sales. And since coordination plays a vital part in management, top executives in a number of companies are now having installed, under their direct supervision, administrative machinery for developing, introducing, maintaining, and keeping up-to-date, the standards required by their companies for operating harmoniously as a unit.

To assist companies in making such a set-up effective and in training their staffs in the principles and technique of standardization, private seminars for men in industry have been held during the last three years by Dr John Gaillard, mechanical engineer on the ASA staff and lecturer in the Department of Industrial Engineering, Columbia University. These seminars have been attended by close to a hundred conferees representing 68 organizations, including 58 private companies in various branches of industry; two trade associations; a prominent engineering college; five agencies of the Armed Forces; and two foreign national standards bodies. Seventeen companies were represented by more than one delegate and the positions held by the conferees in their companies show a wide variety. The president and assistant works manager of one company; the vice president of en-

gineering and the standards engineer of another concern; chief engineers; production men; chief inspectors; directors of quality control; industrial engineers; a director of purchase; and a manager of sales engineering are among those listed in the seminar records.

With a view to the continued interest, another private seminar of ten conferences will be held January 22 through 26, 1951, in Room 501-A, Engineering Societies' Building, 29 West 39 Street, New York. Two conferences will be held each day: 9:30 A.M. to 12 noon, and 1:30 to 4 P.M. At each conference Dr Gaillard will present a lecture, to be followed by round-table discussion giving each conferee a chance to bring up his own company problems. Those interested either in having their company represented or in attending personally are invited to write for further details to Dr John Gaillard at his home address, 400 West 118 Street, New York 27, N. Y., or to phone him at ASA, Murray Hill 3-3058. Advance registration is recommended.

The ten lectures will be given in the following order.

1. Significance of standardization in the industrial concern from the technical, economic, and managerial viewpoints. The value of standards to the individual and the group, in normal times and emergencies.

2. Analysis of the essential functions of standardization: stabilization at a temporary level for the purpose of coordination. Harmonious cooperation as the ultimate goal of standardization.

3. Definition of a standard. Need of specificity, completeness, and clarity. Performance and quality requirements. Basic values. Limits and tolerances. Interpretation of inspection data compared with numerical limits.

4. The relation of standards to the problem of quality control. Different meanings of "quality" and "control." Managerial and technical applications. The quality control chart: its principles, uses, and advantages.

5. Dimensional quality control. Relations between fundamental units of length: inch, millimeter, and lightwave basis. Standard reference temperature. Tolerance systems for cylindrical fits. American, British, and international (ISA) practices.

6. Gaging inspection. Relation between part limits and gage limits. Gagemaker's tolerances and permissible gage wear. Tolerance zone system for harmonizing inspection methods used by the supplier and the purchaser of parts.

7. Four levels of standardization: in a company; in a trade association or technical society; national; and international. The American Standards Association, Foreign national standards bodies. The International Organization for Standardization (ISO).

8. Organization of standardization work in a company. Coordination of departmental functions, such as design; production; inspection; quality control; purchase; and sales. Aid to executive management in planning and control.

9. Review of different forms of application of standardization. Simplification and unification of existing standards. Design of new standards with due regard to future developments. Use of Preferred Numbers in layout of rational series.

10. The art of writing standard specifications. Balance between necessary strictness and maximum freedom in compliance. Analysis of required performance or quality characteristics, their classification and rating. Guide for the design of standards.

Custom Built

(Continued from page 278)

apply directly to his business; however, in so doing, and whenever possible, standards should be referred to, as they have an important part in the present-day specification writing. Simplified Practices, such as issued by the Department of Commerce, are in another category in

that considerable engineering is not involved. Rather, Simplified Practices are governed by distribution and sales. They should not be confused with standards.

ASA Procedure Applies

If the basic principles underlying ASA work and its Procedure are studied, it is quite obvious that they

do apply and that they cover such problems as brought out in Mr Madson's paper.

In summarizing, it can be said that standards lead to development and improvement of a product or process, since in order to standardize, users' acceptance must be a factor and the product must prove itself as satisfactory. This naturally leads to benefits to all concerned.

Restrictions on Materials Studied

WHAT should be the policy of the American Standards Association in case standards being developed place restrictions on use of some material or process in the interest of public safety? This was the principal question presented to ASA's Standards Council at its meeting September 21.

One Council member commented that this problem arises when new procedures and processes are developed, and is an old and recurring one in standardization. The same question was raised when radio was first developed and some thought it threatened to replace the phonograph, he said. He commented that undoubtedly this problem will continue to plague not only standards committees but all industry and technical groups as long as technical developments continue.

The immediate question arose in connection with the building code program. It was raised by the National Lumber Manufacturers Association which is of the opinion that standards now being developed would restrict the use of lumber unnecessarily.

Committee Named

A committee named by the chairman of Standards Council will study the problem and report its recommendations. Members are: T. E. Veltfort, Copper and Brass Research Association, *chairman*; Dr. J. E. Brainerd, Institute of Radio Engineers; A. S. Johnson, National Association of Mutual Casualty Companies; C. M. Mapes, Telephone Group; A. E. Pringle, II, National Electrical Manufacturers Association; Maurice N. Quade, American Society of Civil Engineers; Carlton H. Rose, American Society for Testing Materials.

The Bell System makes wide use of the American Standard Manhole Frames and Covers, A35.1-1941, the Council was told in a report by the

Building Code and Construction Standards Committee. Although it does not use all the types covered in the American Standard, those it does use conform to the standard in all respects.

A Coal Mine Lighting Clinic sponsored by the National Coal Association and the General Electric Company August 22 was the direct result of discussions in the Mining Standardization Correlating Committee early this year, the Committee reported. The clinic found that, for the present, research rather than standardization is necessary.

Labor Representation

Employee groups are now for the first time directly represented on the Safety Code Correlating Committee, the Council was informed. For many years employee representatives on SCCC have been shown as representatives of the U. S. Department of Labor. The change to direct representation was made on request of the Department. The American Federation of Labor, the Congress of Industrial Organizations, and the International Association of Machinists were each invited to name a representative on the committee. They have appointed:

American Federation of Labor—James A. Brownlow, President, Metal Trades Department, AFL; Herbert Rivers, Secretary-Treasurer, Building and Construction Trade Department, AFL, (*alternate*)
Congress of Industrial Organizations—Harry Read, Executive Assistant to the Secretary-Treasurer, CIO
International Association of Machinists—Peter Stuart, IAM

International Cooperation

The American Standards Association will participate in the international project on Measurement of Fluid Flow, ISO/TC 30, the Council decided. The action was recommended by the Mechanical Standards Committee, which had referred the question to the Power Test Codes

Committee of the American Society of Mechanical Engineers. This committee had taken an active part in international work on the measurement of fluid flow through nozzles and orifices before the war, and is interested in again taking an active interest.

The Council also authorized ASA to accept the secretariat for the ISO project on Plastics, ISO/TC 61. The scope of the project is to be limited, at least at first, to the standardization of terms and test methods.

The Council action was guided by the fact that ASTM Committee D-20 recommended participation and the recommendation was endorsed by the American Society for Testing Materials.

"To Be Kept Informed"

The ASA staff was authorized to place the Association on the ISO list to be kept informed about an international project when any group in the U.S. indicates an interest in the project. Heretofore, a vote of an ASA Correlating Committee has been necessary. Under the new system, the staff will inform the correlating committees whenever it accepts the "to be kept informed" status.

Since the procedure of the American Standards Association calls for agreement by all groups that have a substantial interest, it is important that the personnel of committees be checked frequently. For this reason the Council voted that the personnel of every committee must be approved when the committee is first organized, and at intervals not greater than three years. Whenever changes have been made in the membership of a committee that has developed a standard submitted to ASA for approval, the personnel must again be approved.

Changes in the ASA By-Laws to make these recommendations effective are being circulated for final approval.

Standards From Other Countries

MEMBERS of the American Standards Association may borrow from the ASA Library copies of any of the following standards recently received from other countries. Orders may also be sent to the country of origin through the ASA office. The titles of the standards are given here in English, but the documents themselves are in the language of the country from which they were received.

For the convenience of our readers, the standards are listed under their general UDC classifications.

003 Writing
GERMANY DIN
Different Styles of Greek Alphabet, 1453

620.1 Testing Materials
UNION OF SOUTH AFRICA SABS
Specifications for Bending Dimensions of Bars for Concrete Reinforcements, 82:1949

UNITED KINGDOM BS
Steel Balls for Brinell Hardness Testing, 240:1950, Part 2
Notes on the Simple Bend Test, 1639:1950
Tensile Testing of Metals, Verification of Testing Machines—Method of Load Verification; and Verification of Tensile and Compression Machines, 1610:1950, Part 1

URUGUAY UNIT
Determination of Impalpable Powders in Aggregates, 72

621-7 Servicing, Safety, Assembly and Maintenance Devices

GERMANY DIN
Packing Rings for Shafts, with and without Housing, 6503; 6504

621.5 Pneumatic Tools
RUMANIA STAS
Pneumatic Riveting Hammer, Drill, Grinders, 639; 640/1
Pneumatic Hammers, 828/9

621.8 Machine Parts. Hoisting and Conveying Machinery. Power Transmission. Means of Attachment. Lubrication

ARGENTINA IRAM
Button-Head Rivets, Dimensions, 521
Cone-Head Rivets, Dimensions, 535

BELGIUM NBN
Splined Shafts and Hubs, 90

GERMANY DIN
V-Belts, 2215, B1.1

NETHERLANDS N
Eye Hooks, Trapezoidal Section, 1156
Carriage Bolts, Round Flat Head (3rd edition), 322

POLAND PN
Studs, M 82415/6
Spring Stop Ring, M 85111

RUMANIA STAS
Transmission Bearings, 771; 772; 773
Leather Transmission Belts. Specifications, Testing, 616

Chrome-Tanned Leather Transmission Belts, Type A-3, 757
Whitworth Thread, Straight and Tapered, 402

Whitworth Thread, Normal for Diameters from 3/16" to 4", 611
Spanners, 776

Round-Headed Steel Rivets, 798
Lubricating Grease Cups, Types and Dimensions, 748

Hexagonal Black Nuts, Metric and Whitworth Threads, 922; 923
Square Black Nuts, Metric and Whitworth Threads, 926; 927

Fine Metric Screw Thread, 952
Keys, 1009

UNITED KINGDOM BS
Buttress Threads, 1657:1950
Cycle Threads, 811:1950
Ball and Roller Bearing Plummer Blades (General Purpose Series), 1642:1950

Friction Surface Rubber Transmission Belting, 351:1950
Circular Screwing Dies and Hexagon Dies, 1127:1950

621.9 Machine Tools. Operations, In Particular for Metal and Wood

BELGIUM NBN
Speed of Machine Tool Spindles, 123
Lathe Centers, 141

GERMANY DIN
Acceptance Test of Machine Tools: Gear Grinding Machines, 8644

POLAND PN
Rasp, Half-Round, B 54882
Shaft Centers, M 02499

Milling Machine Collets, M 55041
Arbors, Adapters, Grinding Machines, Basic Dimensions, M 55306
Circular Saws for Metal, M 57474
Dies for Whitworth Thread, M 58103

Various Types of Lathe Cutting Tools, 58355; 58380; 58385; 58388; 58410/1/2; 58413; 58417; 58440/1/2
Lathe Cutting Tools, Various Forms, M 5832/3/4/5
Fellows Gear Shaper, M 58501
Cap Screw Counterbores, M 58720/1; 58724
Shell Bottom Reamers, M 58961
Taper Reamers, M 58996

Boiler Maker Reamers, M 59021
Work-Holding Bolts for Lathes, M 60153
Hack Saw Frames, M 62651
Center Punches, M 63520
Screw Drivers, M 64953
Lathe Chuck Wrench, M 65/41
Stamping Press Dies, M 66012
Dies for Pipe Thread, M 58163

RUMANIA STAS
Milling Cutters, Nomenclature, Definitions, Types, 577; 579; 580
Hatchets, 658

622 MINING
GERMANY DIN
Hollow Steel Sleepers for Brown Coal Mines, 20505
Double Link Bucket Water Elevator, 22202; 22212

RUMANIA STAS
Oil Mining Tools, Chain Wrench, 212
Roller Chain, 520
Duplex Pumps, Types A-1, A-2, 535; 536
Triplex Pump, Type T-2, 538
Duplex Pump, Type I-1, 556
Screwed Pipe-Lifting Cap, 592
Gate Valves for Oil Pipes, 699

624 Civil Engineering
GERMANY DIN
Partitions in Light Concrete for Dwellings, 4232

625.1/.6 Railways and Tramways
FRANCE NF
Signal Lanterns, Removable Type, Dimensions, F 14 005
Gaskets for Buffers, F 20 028
Bolts for Split Sleepers, F 51 001

629.11 Land Vehicles. Transport Engineering
GERMANY DIN
Ignition Coils, 72531, B1.3
Automobile Ignition Switch, 72766, B1.1 & 2
Spark Coil, 72531, B1.3
Ignition Cable Terminals, 72535
Roller Chains, 73232, B1.1 & 2

RUMANIA STAS
Pistons of Motors for Tractors, Types IRA 22 and Lanz 35 and 45, 654; 655

629.12 Ships and Shipbuilding
FRANCE NF
Brackets for Wash-Basin Bowls, J 35 545/6

NETHERLANDS N
Manhole for Steamboiler, Packing Ring, 251

RUMANIA STAS
Lugless Joining Shackles, 173

63 Agriculture. Stockbreeding. Animal Produce.
FRANCE NF
Pears, Eating, V 20 001
Apples, V 20 002
Apricots, V 21 002

(Continued on the next page)

STATISTICAL methods of quality control were studied during a visit to the United States this summer by Mamoru Nakamoto, managing director of the Japanese Standards Association. Mr Nakamoto spent several weeks at the American Standards Association, and visited important associations and industrial organizations. He expects that his visit to the U. S. will give him the

学童用ゴム製品について



学童用ゴム製品の履脚

information he needs to introduce the statistical method of quality control to Japanese industry. To this end he has studied the American War Standards on quality control, Z1.1-1941, Z1.2-1941, and Z1.3-1942. Through application of these statistical methods he expects that Japanese industry will be able to improve the quality of its product, which, he explains, deteriorated badly during the war. The problem is already under discussion in Japanese industrial circles, and in a Quality Control Committee of the Japanese Standards Association.

Five Subcommittees

The work of the Japanese Quality Control Committee, organized late in April of this year, will be carried out through five subcommittees. There will be a committee on control charts, a committee on analysis of statistics, one on sampling and inspection, one on measuring and in-

Japan Studies Quality Control

spection instruments, and one on publicity and promotion. These committees will go into industrial problems such as sampling and instrumentation because of the need for development along these lines in Japan.

In addition to quality control, another committee of the Association is working on technical terms—an important problem to Japan, particularly in her relation with other countries. The compilation now being made includes a list of technical terms in Japanese, their definitions, and corresponding words in other languages. So far, 30,000 terms have been compiled with English equivalents.

Publicizes Standards

The Japanese Standards Association is the organizing, publishing, and publicity agency for standardization. Another organization—the Japanese Industrial Standards Investigation Committee—is directly responsible for committee work and for approval of the standards. They are promulgated and made effective for government use by the Minister in charge of the Government Department concerned.

Final development of a standard is done in committees of the Japanese Industrial Standards Investigation Committee. These committees are made up of representatives of industry and science. At the present time they cover: weights and measures, metals, building, civil engineering, precision instruments, mechani-

cal engineering, electrical engineering, communications (telephone and telegraph, radio, and television), electrical materials, automotive, railway, shipbuilding, chemical engineering, textiles, mining, medical instruments, consumer goods, packing and packaging. Draft standards cleared by these committees go to a standards conference on which the Japanese Standards Association is represented. Recommendations of the conference are sent to the President of the Industrial Standards Investigation Committee, who approves standards recommended, and reports his action to the Committee. This

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approval goes to the Minister of the Government Department concerned through the Agency of Industrial Science and Technology. The Minister signs it and it is promulgated by publication in the official gazette. The Japanese Standards Association is responsible for printing the standards for circulation, and publicizing them to the groups concerned.

The Association is also organizing a standards library and is exchanging standards with a number of other countries, including the United States.

Plums,	V 21 003
Tomatoes,	V 22 001
Wooden Frame for Hives	
of Dadant-Blatt System,	U 82 101
GERMANY	DIN
Plows and Different Types	11118: 11121
of Plowshares,	through 11125
RUMANIA	STAS
Meat Products, Analysis Method	96

64 Domestic Science. Housekeeping	
GERMANY	DIN
Sponge—Bath Tub, Cast	
Iron,	4488
POLAND	PN
Stamped Aluminum Kitch-	M 77002/3/
enware,	4/5:
77007/8/9; 77011; 77013; 77017-77022	

Stamped Enameled Kitch-	M 77102-
enware,	77106:
77108; 77141; 77151; 77181; 77201/2/3/4	
Household Brushes,	1 61018;
	61023; 61025
UNITED KINGDOM	BS
Measuring Cups and	
Spoons,	1348:1949

Safety Codes

(Continued from page 287)

Council made a report to the members in which it stated:

"National and international unions can serve the cause of safety for their members by creating a union safety organization from the International through the local unions. Trained union safety representatives would be in a position to cooperate practically with management in the development and maintenance of sound safety organizations in industry. These safety representatives would be in a position to see that the interests of Labor are adequately considered in safety programs."

Labor Will Cooperate

In conclusion, I would state again that labor has more to gain than any other group from effective accident prevention programs. Labor, now that it has "arrived" and is generally recognized, will have more energy to devote to the program. Labor will be willing to cooperate with other groups who seek pure accident prevention, without other "axes to grind" with the intent to use those axes on labor. Labor feels that safety codes, as a whole, can be and are useful, but, like many other things, can be misused and perverted by unprincipled persons. Labor would like to see the problems of safety in labor left in the labor branches of governmental agencies.

Labor feels that here can be found a common meeting ground for labor, management and government; where the honest aims of all are common and where, in pursuing those aims, a better mutual understanding may result. Labor seeks safety: first, last and always.

Editor's Note: This discussion of labor's views on safety codes represents excerpts from one of the series of articles being circulated by the Z50 Sectional Committee on Safety Code for Bakery Equipment to bring about a wider acceptance and understanding of the principles that should be followed for greater safety in the industry. The American Society of Bakery Engineers is sponsor for the project.

Modular Pans

(Continued from page 291)

since all cutting is done by the counter attendant. Angle slides and 14 by 18 in. trays are also used under the pastry counter, so that 120 desserts on 6-inch plates can be ready to set up on the cafeteria counter at rush periods.

Number Two basic size had to be chosen as 12 by 20 inches to conform to standard hotel pan sizes and the available electric elements used in the hot food table. Different heating devices might have been used to permit using the 14 by 18 size here, too, but die-formed pans were not available, so it seemed desirable to yield to 12 by 20 (and the fractional sizes, etc.).

It was preferred that muffins, biscuits, and corn bread be baked, kept warm, and served from a single pan to avoid handling and soiling extra pans. For this purpose, one brand of 12-cup muffin pan was found which was close to 10 by 12 inches and removable adaptor frames were made to hold two pans in one hot table opening.

For biscuits, shallow pans were then made to order, 12 by 20 inches by 1 inch deep. The steam heated pass-through cabinet behind the hot bread counter was designed with slide rails to hold one biscuit pan or two pans of muffins on each pair of rails. Thus either type, or both, can be stored in the same shelfless cabinet and transferred directly to any opening in the hot food table.

The diagram on page 290 summarizes the principal uses of the "Number One" modular size in this installation.

In any installation calling for high-quality custom-built equipment, the modular sizes will generally cost no more than hit-and-miss sizes. The saving from elimination of shelves should more than offset the costs of the few special pans needed, and operating savings from soiling less pans each day, reduced handling of foods and dishes from one container to another, and lower breakage will

add up penny by penny to considerable savings.

National Groups

(Continued from page 293)

is a national standardizing body of prime importance in order to provide a means for coordinating the work of the numerous organizations which are engaged in standardization activities. Lack of coordination leads to duplication of effort or, even worse, to conflicting standards on the same subject."

NEMA finds national standards "essential elements in all phases of the business involved in the manufacture of electrical equipment—they are the foundation upon which mass-production rests; they help to sell goods by providing a common language for the supplier and his customer so that they may understand each other; they are extremely valuable in the procurement of materials used in the manufacturing process; they contribute substantially to the economy in design, production and distribution. The existence of electrical standards promotes the creation and expansion of a nationwide market for electrical products."

With this introduction NEMA tells its members what American Standards are, why a national standardization body is necessary, and the many advantages to NEMA members of their membership in ASA.

For the HPACCNA, a member-body of ASA, Rowland Tompkins has given the ASA story in a recent issue of their *Official Bulletin*. He calls attention to the national and international recognition of ASA as the foremost agency in the United States for processing and coordination of industrial standards and safety codes. He states that a national standardizing body is necessary to provide the facilities and procedures for all-party-at-interest participation in standardization work. An American Standard, therefore, represents a democratic consensus of informed people which may be accepted voluntarily by all concerned with its provisions.

AMERICAN STANDARDS

Status as of October 9, 1950

Legend

Standards Council—Approval by Standards Council is final approval as American Standard; usually requires 4 weeks

Board of Review—Acts for Standards Council, gives final approval as American Standard; usually requires 2 weeks

Correlating Committees—Approve standards to send to Standards Council or Board of Review for final action; approval by correlating committee usually takes 4 weeks

Building

In Correlating Committee—

Specifications for Gypsum Plastering, A42.1 (Revision of A42.1-1946)

Specifications for Interior Lathing and Furring, A42.4 (Revision of A42.1-1946)

Sponsor: American Institute of Architects
American Society for Testing Materials

Submitted to ASA for Approval—

Pile Foundations and Pile Structures, A96
Sponsor: American Society of Civil Engineers

Withdrawal Requested—

Design for Joint Plates for Seven Inch Girder-Grooved and Guard Rails, E2-1923

Design for Joint Plates for Nine-Inch Girder-Grooved and Guard Rails, E3-1923

Design for Seven-Inch Girder-Grooved Rail, E4-1933

Design for Nine-Inch Girder-Grooved Rail, E5-1933

Design for Seven-Inch Girder Guard Rail, E6-1933

Design for Nine-Inch Girder Guard Rail, E7-1933

7-Inch 82 lb Plain Girder Rail and Splice Bars for Use in Paved Streets, E8-1933

7-Inch 92 lb Plain Girder Rail and Splice Bars for Use in Paved Streets, E9-1933

7-Inch 102 lb Plain Girder Rail and Splice Bars for Use in Paved Streets, E11-1933

Sponsor: American Transit Association

Reaffirmation Requested—

Specifications for Sieves for Testing Purposes (ASTM E11-39; ASA Z23.1-1939)

Sponsor: American Society for Testing Materials

Consumer

In Correlating Committee—

Colorfastness to Light (AATCC 16-45) L14.53

Colorfastness of Acetate Rayons to Atmospheric Fumes (AATCC 23-46) L14.54

Resistance of Textiles to Mildew and Rot, and Evaluation of Textile Fungicides (AATCC 30-46) L14.55

Colorfastness to Perspiration (AATCC 15-45) L14.56

Colorfastness to Chlorine Bleaching (AATCC 3-42) L14.57

Colorfastness to Peroxide Bleaching (AATCC 29-45) L14.58

Water Resistance of Fabrics—Resistance to Hydrostatic Pressure (AATCC 18-41) L14.59

Resistance to Water Spray (AATCC 22-41) L14.60

Resistance to Absorption of Water During Immersion (AATCC 21-41) L14.61

Detection of Phototropism (AATCC 32-46) L14.62

Colorfastness to Pleating (AATCC 31-46) L14.63

Resistance of Textile Fabrics and Yarns to Insect Pests (AATCC 24-49) L14.64

Evaluation of Insect Pest Deterrents on Textiles (AATCC 28-49) L14.65

Specifications for Textile Testing Machines (ASTM D 76-49) L14.66

Methods of Testing and Tolerances for Knit Goods (ASTM D 231-46) L14.67

Definitions of Terms Relating to Textile Materials, L14.12 (Revision of ASTM D 123-48; ASA L14.12-1949)

Methods of Testing and Tolerances for Cotton Yarns, L14.13 (Revision of ASTM D 180-47; ASA L14.13-1949)

Methods of Test for Asbestos Yarns, L14.18 (Revision of ASTM D 299-48T; ASA L14.18-1949)

General Methods of Testing Cotton Fibers, L14.23 (Revision of ASTM D 414-47T; ASA L14.23-1949)

Method of Test for Fiber Length of Wool, L14.32 (Revision of ASTM D 519-40; ASA L14.32-1949)

Methods of Testing and Tolerances for Single Jute Yarn, L14.34 (Revision of ASTM D 541-41; ASA L14.34-1949)

Methods of Testing and Tolerances for Glass Yarn, L14.36 (Revision of ASTM D 578-47T; ASA L14.36-1949)

Methods of Testing and Tolerances for Woven Glass Fabrics, L14.37 (Revision of ASTM D 579-47; ASA L14.37-1949)

Methods of Testing and Tolerances for Woven Glass Tapes, L14.38 (Revision of ASTM D 580-47; ASA L14.38-1949)

Methods of Testing and Tolerances for Woven Glass Tubular Sleeving and Braids, L14.39 (Revision of ASTM D 581-44; ASA L14.39-1949)

Methods of Testing Felt, L14.52 (Revision of ASTM D 461-47; ASA L14.52-1949)

General Methods of Testing Woven Textile Fabrics, L14.68 (Revision of ASTM D 39-39; ASA L5-1939)

Sponsors: American Society for Testing Materials; American Association of Textile Chemists and Colorists

Drawing Room Practice

In Standards Council—

Abbreviations for Use on Drawings, Z32.13 (Revision of Z32.13-1946)

Sponsors: American Institute of Electrical Engineers; American Society of Mechanical Engineers

Electrical

American Standard Just Approved—

Grounding-Type Attachment Plug Caps

and Receptacles, C73a-1950

Sponsor: National Electrical Manufacturers Association

In Correlating Committee—

Test Code for Apparatus Measurement, Z24.7

Sponsor: Acoustical Society of America

Submitted to ASA for Approval—

Sampling Electrical Insulating Oils, Method of Test (ASTM D 923-49; ASA C59.21)

Power Factor and Dielectric Constant of Electrical Insulating Oils of Petroleum Origin, Method of Test (ASTM D 924-49; ASA C59.22)

Gas Content of Insulating Oils, Method of Test (ASTM D 831-48; ASA C59.23)

Inorganic Chlorides and Sulfates in Insulating Oils, Method of Test (ASTM D878-49; ASA C59.24)

Detection of Free Sulfur in Electrical Insulating Oils, Method of Test (ASTM D 981-48 T; ASA C59.25)

Natural Block Mica and Mica Films Suitable for Use in Fixed Mica-Dielectric Capacitors, Specification for (ASTM D 748-49; ASA C59.26)

NEMA Standards for Laminated Thermosetting Products (Revision of C59.16-1949)

Method of Testing Sheet and Plate Materials Used in Electrical Insulation (Revision of ASTM D 229-46; ASA C59.13-1948)

Sponsor: American Society for Testing Materials

Electrical Indicating Instruments, C39.1 (Revision of C39.1-1949)

Sponsor: Electrical Standards Committee

Gas-Burning Appliances

In Board of Review—

Approval Requirements for Gas Water Heaters (Revision of Z21.10-1949)

Addenda to Approval Requirements for Gas-Fired Room Heaters (Revision of Z21.11-1949)

Approval Requirements for Installation of Gas Equipment in Large Boilers (Revision of Z21.13-1922)

Addenda to Approval Requirements for Central Heating Gas Appliances (Revision of Z21.13-1945)

Sponsor: American Gas Association

In Correlating Committee—

Installation of Gas Piping and Gas Appliances in Buildings, Z21.30 (Revision of K2-1927 and Z27-1933)

Sponsor: American Gas Association

Highway Traffic

In Correlating Committee—

Specifications for Traffic-Actuated, Traffic Signal Controllers and Detectors, D13.1

Sponsor: Institute of Traffic Engineers

Mechanical

American Standards Just Published—

Large Rivets (½ Inch Nominal Diameter

and Larger), B18.4-1950 (Revision of B18.4-1937) \$1.80

Sponsors: American Society of Mechanical Engineers; Society of Automotive Engineers

Compressed Gas Cylinders Valve Outlet and Inlet Connections, B57.1-1950, (Revision of B57.1-1949) \$1.50

Sponsor: Compressed Gas Association, Inc. Lock Washers, B27.1-1950 (Revision of B27.1-1944) \$1.75

Sponsors: American Society of Mechanical Engineers; Society of Automotive Engineers

American Standards Approved—

Gear Nomenclature, Terms, Definitions, and Illustrations, B6.10-1950

Sponsors: American Gear Manufacturers Association; American Society of Mechanical Engineers

In Correlating Committee—

Recommended Practice for Mechanical Refrigeration Installations on Shipboard, B59

Method of Rating and Testing Refrigerant Expansion Valves, B60

Sponsor: American Society of Refrigerating Engineers

Motion Pictures

American Standards Just Approved—

Cutting and Perforating Dimensions for 32-Mm Sound Motion Picture Negative and Positive Raw Stock, Z22.71

Cutting and Perforating Dimensions for 32-Mm Silent Motion Picture Negative and Positive Raw Stock, Z22.72

Sound Records and Scanning Area of 35-Mm Sound Motion Picture Prints, Z22.40

Sponsor: Society of Motion Picture and Television Engineers

Photography

American Standards Just Approved—

Methods of Testing for Photographic Enlargers, Z38.7.6

Sponsor: Optical Society of America

Power Trucks

(Continued from page 288)

of industrial trucks, scope and purposes of the code, and gives a bibliography of related safety codes. Part I gives minimum requirements of construction and design features, such as safety locks for forks, operator's platform guards, wheel and chain guards, automatic brakes, and enclosures for electric controls and motors.

Part II outlines general safety regulations, such as qualification and training of operators, battery charging and changing facilities, marking of aisles, and lighting of operating areas. Part III gives specific safety rules and regulations that have been adopted in part or in full in many industrial plants and warehouses.

What's New on American Standard Projects

Building Code Requirements for Excavations and Foundations, A56.1

Sponsor: American Society of Civil Engineers

A fifth draft of the proposed American Standard Building Code Requirements for Excavations and Foundations, A56.1, has been submitted to the sectional committee for approval.

Safety Code for Ladders, A14

Sponsors: American Society of Safety Engineers; National Association of Mutual Casualty Companies

At its annual meeting in September, the American Ladder Institute appointed C. Edward Belanger of the J. R. Clark Company, Spring Park, Minn., to act as chairman and Robert M. Rink, Goshen Manufacturing Company, Goshen, Indiana, as co-chairman of a special committee to check up on changes needed in the American Standard Safety Code for Ladders, A14.1-1948. When their task is completed, the sectional committee will be called into action for consideration of proposed changes. General chairman of the committee is H. D. Bender of the Bell Telephone Laboratories.

Acoustical Measurements and Terminology, Z24

Sponsor: Acoustical Society of America

Two proposed American Standards have been sent to letter ballot of the Z24 sectional committee for approval. One is the proposed revision of American Standard Acoustical Terminology, Z24.1-1942. This proposed standard not only contains a revision of the 1942 edition, but also incorporates a revision of definitions and terms included in the Institute of Radio Engineers' Standards on

Electroacoustics, 1938. A comparison of the proposed revision with the 1942 edition shows that it has over 500 definitions compared to about 150. The increase is largely in six new sections reflecting recent scientific developments. These are: Ultrasonics, recording and reproducing, underwater sound, general acoustical instruments, shock and vibration. Additional material is also included in these sections which appeared in the earlier version: general, architectural acoustics, hearing, sound transmission, transmission systems, and music.

The proposed American Standard Specifications for an Octave-Band Filter Set for the Analysis of Noise and Other Sounds, Z24.10/255, is the second standard sent to the Z24 committee for approval. This standard is intended to take care of the need for frequency analyses to supplement measurements of noise made with sound level meters.

Color Code for Compressed Gas Cylinders and Pipe Lines

A General Conference met October 10 to consider the Color Code for Compressed Gas Cylinders and Pipe Lines, MIL-STD-101, recently submitted to the American Standards Association by the Interdepartmental Standards Council. Industry and government representatives agreed that the use of color to identify compressed gas cylinders should be secondary to the use of labels. Labeling or stenciling of the chemical or trade name of the gas should remain the primary method of identification.

A special committee was appointed to review the structure of existing committees in relation to work on a color code—to determine whether work on colors for compressed gas cylinders could be placed in one of the present committees, and if not, make recommenda-

tions for another solution. The two standards that bear a relation to this problem are: American Standard Code for the Identification of Piping Systems, A13.1-1928; and American Standard Method of Marking Compressed Gas Cylinders to Identify Content, Z48.1-1942.

The chairman asked the following members to serve on the special committee: F. R. Fetherston, secretary, Compressed Gas Association, to be chairman; E. R. Grannis, American Society of Mechanical Engineers; O. P. Peters, Accident Prevention Department, Association of Casualty and Surety Companies; C. W. Nickerson, National Association of Mutual Casualty Companies; Herbert F. Reinhard, National Safety Council; E. O. Mattocks, American Petroleum Institute; Harry J. Keegan, National Bureau of Standards; N. Rea Paul, Inter-Society Color Council; C. L. Miller, Munitions Board.

Nomenclature for Glass Bulbs and Molded Glass Flares for Use in the Manufacture of Electric Lamps and Electron Tubes, C79—

Sponsor: Electrical Standards Committee

J. E. Darlington, Lamp Division, Westinghouse Electric Corporation, has been named chairman of this committee. He succeeds Dr. A. Brann, also of the Westinghouse Corporation, who has retired.

Pressure and Vacuum Gages, B40

Sponsor: American Society of Mechanical Engineers

Steps are being taken to reorganize this committee for the purpose of revising and modernizing the current standard Indicating Pressure and Vacuum Gages, B40.1-1939, reaffirmed April 1947.

Plumbing Code, A40

Sponsors: American Public Health Association; American Society of Mechanical Engineers

The Interpretations Committee of A40 has been active during the year answering questions on the provisions of the American Standard

Plumbing Code, A40.1-1949. They report that considerable progress has been made toward resolving differences between important plumbing codes in various sections of the country. A progress report is anticipated by the end of the year, which will include proposals to eliminate conflicts between major codes now in use.

Safety Code for Elevators, A17

Sponsors: American Institute of Architects; American Society of Mechanical Engineers; U. S. Department of Commerce, National Bureau of Standards

George P. Keogh, Supervising Industrial Code Referee, N. Y. Department of Labor, was recently elected chairman of this committee. He succeeds Sullivan W. Jones, who resigned after 29 years of service. K. A. Colahan, Division Engineer Manager, American Mutual Liability Insurance Company, was elected vice-chairman.

Safety Code for Compressed Air Machinery, B19

Sponsors: American Society of Mechanical Engineers; American Society of Safety Engineers

Organizations having representatives on this sectional committee have reviewed their membership, and interested persons have submitted suggestions for a revision of the code. It is expected that a reorganization meeting will be held this Fall to appoint working subcommittees to consider the suggestions and prepare a proposed new edition.

Device Designations

H. W. Robb, Standards Division, Executive Department, General Electric Company, has accepted the chairmanship of a task committee on Device Designations. This committee was formed to coordinate two proposed standards, recently submitted to ASA for approval, with existing American Standards. The proposed standards are: Standards on Designations for Electrical, Electronic, and Mechanical Parts and Their Symbols, submitted by the Institute of Radio Engineers; and Industrial Control Standards for Device Des-

ignations, submitted by the National Electrical Manufacturers Association. The two American Standards with which these will be coordinated are C37.2-1945, Automatic Station Control, Supervisory, and Telemetering Equipments; and C6.1-1944, Terminal Markings for Electrical Apparatus. All of these standards use letters or numbers to identify electrical devices.

This task committee will report to the new Drawings and Symbols Correlating Committee.

Screw Threads for Hose Couplings, B33

Sponsor: American Society of Mechanical Engineers

This committee is in process of reorganization for the review and modernization of American Standard Hose Coupling Screw Threads, B33.1-1935. It is planned to extend the range of standard hose couplings and to resolve conflicts in coupling dimensions for certain sizes.

Shaft Couplings, B49

Sponsor: American Society of Mechanical Engineers

Reactivation of this committee is planned. Revisions to the American Standard Shaft Couplings, Integrally Forged Flange Type for Hydro-Electric Units, B49.1-1947, have been proposed by the Hydraulic Turbines Section of the National Electrical Manufacturers Association.

Safety Code for Mechanical Power Transmission Apparatus, B15

Sponsors: American Society of Mechanical Engineers; Accident Prevention Department, Association of Casualty and Surety Companies; International Association of Governmental Labor Officials

A proposed new edition of this code is being circulated for letter ballot approval by sectional committee B15. This revision was prepared on the basis of suggestions and comments received from members of the committee. The suggestions were compiled and circulated to the committee. Following approval of the suggested revision, this new edition was prepared.

News Briefs

• • **Commodity Standards Transferred**—The Commodity Standards Division has been transferred from the National Bureau of Standards to the Office of Industry and Commerce of the Bureau of Foreign and Domestic Commerce, the U. S. Department of Commerce has announced.

"This organizational change is another step in the Department's program to make it easier for the businessman to obtain all available information and assistance on a particular commodity or industry from a single, central source," officials of the Department explained.

The Department recently consolidated all industry-commodity units, as well as export control activities, of the Bureau of Foreign and Domestic Commerce into the Office of Industry and Commerce.

Principal functions of the Division as outlined in its announcement are: (1) Formulation of simplified practice recommendations which identify and list the sizes, types, dimensions, and varieties of products in national demand; and (2) Voluntary establishment, maintenance, recording, publishing, and promoting of commercial standards as a nationally and internationally recognized basis for testing, grading, labeling, marketing, guaranteeing, or accepting staple manufactured commodities moving in domestic and foreign trade.

Edwin W. Ely is Chief of the Division, and Floyd W. Reynolds is Assistant Chief, continuing in the posts they held prior to the organizational transfer.

• • **Committee on Drawings**—A new correlating committee on Drawings and Symbols was organized by the American Standards Association September 26. The committee will coordinate the work being done on letter symbols, graphical symbols, abbreviations, and drawing practice in general. The committee has under its jurisdiction the work of four sectional committees: Letter Symbols

and Abbreviations, Z10; Drawings and Drafting Room Practice, Z14; Standards for Graphic Presentation, Z15; Graphical Symbols and Abbreviations for Use on Drawings, Z32.

A request received by ASA from the American Society of Refrigerating Engineers for a new project on refrigeration nomenclature was discussed and will be given further study.

As its first action, the correlating committee voted to appoint a special committee to study the organization of the work in the sectional committees on letter symbols and abbreviations, Z10 and on graphical symbols and abbreviations for use on drawings, Z32. The committee is to consider whether the present alignment of work on symbols and abbreviations for use in text in one committee and symbols and abbreviations for drawings in another is satisfactory. It is to make recommendations as to whether any rearrangement of work is needed. This action was taken following discussion of a request from the Institute of Radio Engineers for a new project on electronic symbols for which the IRE requested sponsorship.

Harold P. Westman (Editor, *Electrical Communication*), representing the American Institute of Electrical Engineers, was named temporary chairman of the new Drawings and Symbols Correlating Committee. Cyril Ainsworth, Technical Director of ASA, is serving as secretary. Members are:

American Institute of Physics—Dr. Elmer Hutchisson, Case Institute of Technology

Institute of Radio Engineers—Allen F. Pomeroy, Bell Telephone Laboratories, Inc.

Munitions Board—Charles L. Miller, Munitions Board Standards Agency, liaison

National Conference of Business Paper Editors—C. B. Tavenner, Secretary-Treasurer, National Conference of Business Paper Editors

National Electrical Manufacturers Association—R. A. Frye, Manager, Materials and Standards, Westinghouse Electric Corporation

Society of Automotive Engineers—W. A. Siler, Delco Remy Division, General Motors Corporation

Telephone Group—R. G. Koontz, Standards and Drafting Engineer, Bell Telephone Laboratories, Inc.

• • **Government and Industry**—Dr. H. S. Osborne, chief engineer of the American Telephone and Telegraph Company, and vice-president of the American Standards Association, is chairman of a new Industry Advisory Committee for the Munitions Board Cataloging Agency. The Agency is preparing a catalog for all materials purchased by the Government. Vice-Admiral G. F. Hussey, Jr., managing director of ASA, is a member of the committee, as is Dr. P. G. Agnew, ASA Consultant.

In addition to the Telephone Group, other Member-Bodies of ASA were represented by C. L. Warwick, executive secretary, American Society for Testing Materials and J. H. Aydelott, vice-president, Operations and Maintenance Department, Association of American Railroads.

• • **Commercial Standard for Tableware**—A Recommended Commercial Standard for Heavy-Duty Alpha Cellulose-Filled Melamine Tableware has been circulated by the Commodity Standards Division of the Office of Industry and Commerce, U. S. Department of Commerce, to manufacturers, distributors, and users for consideration and acceptance.

This standard was proposed by The Society of the Plastics Industry.

• • **Microfilming "Standardization"**—The American Standards Association has an agreement with University Microfilms, Ann Arbor, Michigan, to make available to libraries microfilmed copies of STANDARDIZATION. Regular subscribers to the publication can place a subscription with University Microfilms for a microfilm copy to be delivered at the end of the year. The cost of the film copy will be approximately equal to the binding costs. It is estimated that use of the microfilm can save 94 percent of storage costs of the paper edition. Inquiries should

be directed to University Microfilms, 313 N. First Street, Ann Arbor, Michigan.

• • **National Bureau of Standards Celebrates**—The second High Frequency Measurements Conference, sponsored jointly by the American Institute of Electrical Engineers, the Institute of Radio Engineers, and the National Bureau of Standards, will be the first scientific gathering of national scope to be brought to Washington in 1951 in celebration of the Semicentennial of the National Bureau of Standards. It is scheduled for January 10 to 12, 1951.

Principal emphasis will be placed on high-frequency and extra-high frequency investigations, but the program will also include several papers on interesting video techniques.

The Conference is under the general direction of Professor Ernst Weber, of the Microwave Research Institute of the Polytechnic Institute of Brooklyn, as chairman of the Joint AIEE-IRE Committee on High

Frequency Measurements. Dr Harold Lyons of the National Bureau of Standards is chairman of the Local Arrangements Committee and Dr Frank Gaffney of the Polytechnic Research and Development Company is chairman of the Technical Program Committee.

• • **New ASTM Committee**—A new technical committee on Sampling and Analysis of Atmospheric Pollution has been authorized by the Board of Directors of the American Society for Testing Materials. Dr Louis C. McCabe, chief of Air and Stream Pollution, U. S. Bureau of Mines, an outstanding authority in this field, has accepted the temporary chairmanship of the new committee.

Problems concerned with limitation of pollution, and other related matters, such as biological and health problems, will not be considered.

While much work has already been done on the various instrumentation angles, there continues a need for

additional new and improved instruments, the ASTM announces. Much research is already under way in this field directed toward the development of instruments by which a single or a few contaminants will be measured. Studies are continuing in various channels on contaminants to be measured which will offer a true index of the nature and extent of pollution in an atmosphere over industrial cities.

The smog situation in leading industrial centers, coupled with incidents such as the deaths at Donora, attributed to air pollution, is responsible for the present concerted interest in abatement.

Sampling and Analysis

Many aspects of the problem are beyond the scope of the Society. It is hoped, however, that through the time-tested procedure of developing acceptable standard tests and analytical methods, agreement can be reached on the important technical phase of sampling and analysis.

In order to develop standard test methods and definitions of terms and to promulgate standard specifications for wax polishes and related materials, ASTM has organized a new technical committee entitled Committee D-21 on Wax Polishes and Related Materials.

The Committee's Scope

The scope of the committee covers: "The stimulation of research, and the formulation of test methods, definitions of terms, and specifications, of wax polishes and related materials, including the materials entering into their manufacture."

Initially the committee will concentrate its work on standardizing test methods and procedures for evaluating various properties of the materials and will study nomenclature and definitions of terms.

Water-emulsion type waxes will probably receive first consideration in the development of test methods. Automobile, furniture, and other type waxes will be included later in the work of the committee.

J. I. Hoffman, National Bureau of Standards, is temporary chairman.

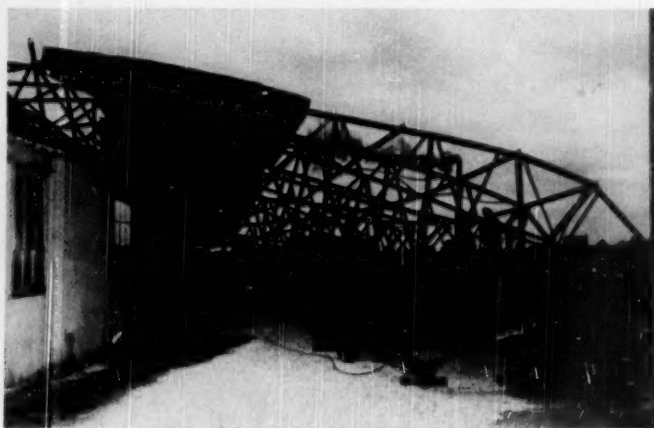
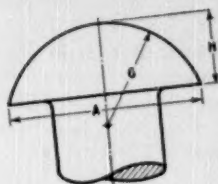
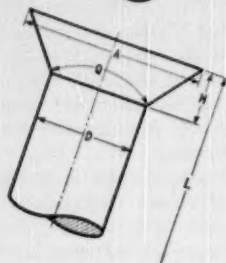


Photo Courtesy Factory Mutual Record

A Standard Ignored

This steel-frame roof sign was a victim of unusually high winds which averaged over 70 mph for a five-minute period. Failure resulted from improper design, *Factory Mutual Record* reports. "New sign structures and anchorage should be designed to resist 30 lb per square foot wind load from any direction," the *Record* states. "The work should be done by registered engineers in accordance with the new American Standards Association code on sign construction." The code referred to is the American Standard Building Code Requirements for Signs and Outdoor Display Structures, A60.1-1949.

Large Rivets and



Lock Washers

These two new American Standards on Lock Washers and Large Rivets represent the latest results of research by committees that have been studying government and industry use since 1922. Intended for automotive and general industrial application, the standard on Lock Washers, B27.1-1950, gives the dimensions, physical properties and methods of testing of spring lock washers in various materials;

carbon steel tooth lock washers; spring lock washers and machine screw assemblies; and carbon steel tooth lock washers and machine screw assemblies. American Standard B18.4-1950 on Large Rivets covers the proportions and dimensions, tolerances, and material specifications for these types of rivets: button head, high button head (acorn), flat-top countersunk head, round-top countersunk head, cone head, and pan head.

Bring your file of standards up to date!

Lock Washers, B27.1-1950, per copy..... \$0.75

Large Rivets, B18.4-1950, per copy..... \$0.80

American Standards sponsored by the American Society of Mechanical Engineers, and the Society of Automotive Engineers under ASA procedure.

Please send me:

- ☐ Copies of B18.4-1950, Large Rivets, at \$0.80 per copy
☐ Copies of B27.1-1950, Lock Washers, at \$0.75 per copy

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Remittance Enclosed ☐

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